GOVERNMENT OF INDIA

MINISTRY OF RAILWAYS

(RAILWAY BOARD)

सत्यमेव जयते

REPORT

OF THE

RAILWAY ACCIDENTS ENQUIRY COMMITTEE—1954

WITH APPENDICES AND THE RAILWAY BOARD'S
OBSERVATIONS

To

Shri Lal Bahadur Shastri,
Minister for Transport & Railways,
Government of India,
New Delhi.

Sir,

The Chairman and Members of the Railway Accidents Enquiry Committee have the honour to submit the enclosed Report in compliance with the Ministry of Railways communique dated 20th January 1954, relating to the setting up of this Committee.

Yours faithfully,
(Sd.) Shah Nawaz Khan
(Sd.) P. N. Mubayi
(Sd.) N. S. Sen

Dated : 30th April, 1954.

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REPORT
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CHAPTER I

Introductory

1. In the few days before the close of the year 1953 and after the commencement of the year 1954 there was a series of serious accidents on Indian Railways involving heavy casualties and much damage to public property. These disasters following closely on the heels of one another and being interspersed on all Railways in the country the public mind was greatly agaitated and the feeling appeared to grow that there was something wrong with the working of the Railways. The view was expressed in the Press that in spite of the Railways' preoccupation with rehabilitation programmes the time had arrived for the railway authorities to devote "some attention to the safety of the travelling public." The Government of India were naturally seized of the situation and on 20th January, 1954 made the following announcement through the Press :—

> "It has been decided to set up a Committee to study and analyse the causes of accidents on Indian Railways so that the attention is focussed on all factors contributing to their occurrence and remedial action is ensured.
>
> "The terms of reference of the Committee will be as under:—
>
> (1) to study the reports of enquiries into all train accidents on all Indian Railways which have taken place since January 1, 1953 and to analyse their causes;
>
> (2) to examine how recommendations made by the investigating officers have been dealt with and those accepted by the Railway Board or the Railway Administrations have been implemented; and
>
> (3) to make recommendations with a view to reducing the incidence of such accidents.
>
> "The Committee will consist of the following :
>
> (a) Mr. Shah Nawaz Khan, Parliamentary Secretary to the Minister for Railways and Transport . . . . . . *Chairman*
>
> (b) Mr. P. N. Mobayi, Chief Government Inspector of Railways *Member*
>
> (c) Mr. N. S. Sen, retired General Manager of the ex- B.B. & C.I. Railway . . . . *Member*
>
> "The Committee is expected to start work immediately and submit its report by the end of April, 1954".

2. The Chairman and the Members designate of this Committee which will be known as "The Railway Accidents Enquiry Committee" met the Member (Transportation), Railway Board, for a preliminary discussion. The Committee, during the course of these discussions, pointed out that for a searching scrutiny of the vast field of enquiry assigned to them, they required the services of one District Officer from each of the four railway departments concerned with the working of trains namely Transportation, Civil Engineering, Mechanical Engineerin and Signalling and Interlocking, with one out of them assisted by adequate ministerial staff, functioning as the Secretary of the Committee. This was suggested so that it might be possible to make a detailed study from all possible angles of all train accident cases which had taken place since 1.1.53. The Member (Transpotation), Railway Board, however, explained to the Committee that only one District Officer to function as the Secretary of the Committee could be made available besides one Stenographer and two clerks and the Committee had to face that position.

3. Mr. T. N. Dar, a District Traffic Superintendent of the North Eastern Railway was nominated to function as the Secretary of the Committee and he took up this assignment

from 28th January, 1954. The provision of ministerial staff for the Committee was unfortunately very tardy.*

4. The Committee held two meetings at New Delhi on 28th January 1954 and 29th January 1954 to chalk out their plan of approach to the problems before them. As a result of these deliberations it was decided to review only those cases of train accidents which occurred on Indian Government Railways from 1st January 1953 to 10th January 1954. A precise intepretration for the term 'train accident' was also adopted and this will be explained in the next chapter.

5. On 30th January 1954, a communication was issued to all Railways asking for comprehensive details of all accidents which occurred during the period adopted by the Committee for study. On 5th February 1954 a set of questionnaires was issued to all Railways, covering all aspects of railway working having bearing on train operation.

6. To make the enquiry broad-based it was decided to issue a notification in the Press inviting members of the public to give evidence before the Committee if they so desired. It was also decided to address the members (non-official only) of the National Railway Users' Consultative Committee and the six Zonal Railway Users' Consultative Committee requesting them to either send their views and suggestions about the subject before the Committee in writing or to tender oral evidence before the Committee. Lastly, it was decided to address some of the Unions of Railway workers so that they might have an opportunity of conveying their views and suggestions to the Committee.

7. In view of the extremely limited time available with the Committee for the completion of their labours it was planned that the Committee would visit only the Headquarters Offices of the six Zonal Railways besides a couple of Divisional and Regional Headquarters Offices to obtain the evidence of the Administrative Officers concerned with the operation of trains. In order, however, to acquaint themselves with the actual working conditions at stations, the Committee also decided to inspect a few medium and small stations on different Railways, besides visiting one or two workshops.

8. The Committee left on its first tour on the 7th of February, 1954, returning on the 13th of February 1954. During the course of this tour visits, were paid to Agra Cantt, Agra City, Agra Fort, Agra Idgah, Raja-Ki Mandi, Agra-East Bank, Jumna Bridge, Tundla, Moradabad and Kashipur. The second tour started on 8th March 1954 and concluded on 30th March, 1954, during the course of which visits were paid to Bombay, Madras, Bangalore, Calcutta, Chittaranjan, Lucknow and Gorakhpur.

9. A list is attached as Appendix A of the various persons interviewed by the Committee during its tours and at New Delhi.

10. The Committee wish to record their gratefulness to all those officials and non-officials who accepted to give evidence before them. Their acknowledgments are also due to the railway authorities for placing at their disposal detailed statistics and other data required by them. They are also indebted to the Report of the Indian Railway Enquiry Committee (1947) and the Report on Derailments by Messrs. Isaacs & Latham from which they have derived much useful information.

11. In the Chapters that follow the Committee present their Report.

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*One Stenographer was provided from 28-1-54 and another from 8-3-54. A routine clerk was provided from 2-3-54 and a Clerical Assistant from 30-3-54. The Committee had to limit the scope of analysis of accident cases to the resources of staff available with them, otherwise a more detailed analysis could have been undertaken.

CHAPTER II

Statistical Survey of Train Accidents Occurring on Indian Government Railways from 1.1.53 to 10.1.1954.

12. Before undertaking a statistical survey of train accidents it is necessary to indicate clearly the manner in which we have interpreted the term 'train accident'. Normally any abnormal occurrence to a train would signify a train accident. Thus if the engine of a train gets disabled, with the train remaining intact and another engine has to be requisitioned to work the train or if some part of a wagon or vehicle on a train gets defective or damaged resulting in the wagon or vehicle being detached but with no other effect on the train, a train accident would be said to have taken place. But to include such accidents within the purview of our enquiry would serve no useful or fruitful purpose as we feel that our concern should be with those accidents which have the potentiality of affecting safety of transport or passengers and goods. We have accordingly restricted the significance of the term 'train accident' to include only collisions, derailments and partings in which a train or a part of a train is involved as also cases of fires on trains. In addition the term will for our purposes, include those happenings to a train which though not resulting in any damage or effect on the train were fraught with possibility of serious consequences to the train—happenings like averted collisions, trains leaving without line clear, drivers disregarding signals etc. We hope we have by this explanation succeded in making it clear to what class of accidents our enquiry will be confined.

13. All the Indian Government Railways were requested to furnish the details of all train accidents which occurred during the period 1st January, 1953 to 10th January 1954. During our visits to the headquarters of the various Railways we made some random checks on the statements of accidents furnished by the Railways and noticed a few minor omissions. We however, feel that the statements furnished by the Railways represent a fairly accurate record of train accidents and have made them the basis of our study.

14. Statement I attached to this Report gives an analysis of all train accidents occurring on Indian Government Railways from 1st January 1953 to 10th January 1954. This statement brings out the Railwaywise distribution of the various kinds of accidents. It will be seen that during the period under review 3282 train accidents took place. Of these 224 were collisions of all descriptions including collisions at level crossings which would mean that taking all Government Railways into account the frequency of collisions was more than once every alternate day. Besides these actual collisions, as many as 81 were fortunately averted. There were 1132 cases of derailments and 1456 cases of train partings. To make a comparison Railwaywise of the situation with regard to accidents it is essential that the level of traffic on each Railway should be taken into account. From the point of view of study of train accidents the best index of intensity of traffic that can be adopted is that of train-miles. Statement 2 annexed to this Report gives the figures of train-miles on the different Railways for the year 1952-53, the latest year for which these figures are available. On the basis of these figures, Statement 3 gives the number of accidents that occurred on each Railway, during the period under review, per million train miles and these derivative figures have a comparable value. These figures bring out one important fact and that is the intensity of accidents on Eastern, Noth-Eastern and Northern Railways is about the same while the intensity on the other three Railways stands at almost a common level, being about half of the former Railways. It is also revealed by these figures that the heavier liability to accidents on the Eastern, North-Eastern and Northern Railways is due almost exclusively to the greater incidence of failure of station and train staff to

follow the rules and the larger number of cases of flaw in metal or design of rolling stock. These are important results of our study and analysis.

15. Statement 4 summarises the statistics contained in Statement I according to the main contributing factors which led to train accidents. This statement points to the important conclusion that train accidents are contributed mainly by the failure of station and train staff to follow the prescribed rules and by flaw in metal design of rolling stock and engines being 36.5% and 34.8% respectively. It is very rarely that the flaw in metal or design of an engine is responsible for a train accident and it is predominently rolling stock which figures in accidents of this description. We are further convinced that a very large majority of accidents attributed to flaw in metal of rolling stock is really due either to faulty workmanship in workshops or neglect in running maintenance, and the dead metal is held up as the scape-goat, for it is well realised that dead man tell no tales.

16. Statement 5 gives the details of casualties resulting out of the various types of accidents, separately for each Railway. Apart from noting the fact that in train accidents during the period under review as many as 148 persons were killed and as many as 674 persons were injured we have nothing to comment. The serious loss of life and limb in train accidents however points to the urgency of dealing with this problem.

17. Statement 6 indicates the value of damage to railway property in different types of accidents on each Railway during the period of enquiry. The total loss amounts to the staggerin figure of Rs. 2996403 in a period of a year and ten days. This figure does not include the compensation for life, luggage and goods involved in these accidents and when this is added the proportions of loss would become all the more colossal. The Nation can ill-afford this serious drain on its meagre resources and from this point of view also a very determined preventive effort, even at the cost of considerable capital expenditure is indicated.

18. The Maps of the Six Indian Government Railways are attached showing thereon the section-wise distribution of train accidents. A few graphs are also attached bringing out salient facts with regard to accidents.

19. From this statistical review that we have made it is unmistakably brought out that we will have conquered the menace of train accidents on Railways if we can devise ways and means for making railway staff work strictly according to prescribed rules, if we can bring the level of running maintenance to efficient standards and if we can improve the quality of workmanship in our Workshops.

20. Our analysis will bring one very welcome relief to the general public and that is that the number of accidents due to negligence or ignorance of outsiders is a very minor proportion, and this even after including insignificant cases of almost boyish mischief, like the sticking of a dog-spike in the rail joint or placing of a stone on a rail among attempted sabotage cases. It is for the Railways themselves to put their house in order to reduce the incidence of train accidents.

Railway Board's Observations on Paras 12 to 20

The value of the Committee's analysis is limited by the fact that no comparison has been made with the incidence of accidents or losses on account of accidents in other countries.

CHAPTER III

A study of some of the serious Disasters.

21. In the preceding Chapter we have dealt with the bare skeleton of statistics relating to accidents. But we feel that it is necessary to clothe this bony structure with some flesh so that it may be possible to get a graphic realisation of the manner in which accidents raise their hideous head on Railways. The number of accidents within the sphere of our study is so large that we cannot possibly undertake in this Report a detailed analysis of each. We are left with the option of adopting the method of random selection but rather than do that we feel that it would be more useful if we deal here with cases of those accidents about which enquiries were held by Government Inspectors of Railways—for such cases are erious disasters indeed.

22. So here are the details :—

(*a*) Jharsuguda—Sambalpur is a branch line section of the Eastern Railway whose length is 31 miles in all and in between these two terminal stations are four flag stations. A flag station is one at which line clear work is not done but only traffic is dealt with which means that for the purpose of working of trains only the two terminal stations count. Further the system of working on this Section is the Train Staff and Ticket system. Under this system a single staff is provided for a section, in this case the section Jharsuguda—Sambalpur the possession of which authorises the driver of a train to enter the section. Since only one staff is provided it is thus ensured that only one train can be in the Section at any time. But to provide for two consecutive trains having to leave in the same direction there is the provision of a Train Ticket according to which the Staff is shown to the driver of the first train and he is only delivered a Train Ticket and he is thus ensured that no train can come from the opposite direction. The Staff is delivered to the driver of the succeeding train after a specified time interval along with a Caution Order in which a warning is given of the time of departure of the preceding train and an indication is given of the places at which it will stop in between the Section. These were the conditions on this section on 15th January 1953 when a serious accident took place. On that day 66 Up Passenger arrived at the flag station Sambalpur Road at 4·10 P.M., minutes ahead of its scheduled arrival time, the train having left from Jharsuguda on the authority of a Train Ticket. C Up Goods train left Jharsuguda after the specified interval of 20 minutes following the departure of 66 Up passenger from that station and this train reaching Sambalpur Road at 4·25 P.M. 17 minutes ahead of schedule and the driver of this train failing to exercise the necessary vigilance caused a collision of his train with the rear of 66 Up which was still stationary at this flag station. As a result of this collision one passenger on 66 Up received serious injuries and two others received minor injuries and the cost of damages to railway properry was as high as Rs. 85692. After enquiry the cause of collision was held to be the failure of driver of C Up Goods to control the running of his train even when he had been issued a Caution Order to keep a look-out for 66 Up. Thus this serious mishap resulted out of the failure of train staff to follow the rules. But a doubt arises whether the system of working on the Section, traffic on which had greatly increase due to construction work on Hirakud Dam was not too primitive and whether the time interval of 20 minutes was adequate for a section as long as 31 miles.

(*b*) On 26th February 1953, 176 Dn Passenger left Khari Rohar Road station on the Kandla-Bhuj Narrow Gauge section of the Western Railway with proper line clear. In between this station and the next station, Warsamedi, there is an unmanned level crossing at which at about 7·45 A.M. it ran into a road motor truck the driver of which rashly tried to cross the track in face of the approaching train and as a result of this collision the train got derailed. In this mishap 4 persons received serious injuries and 11 received simple injuries and the cost of damage to railway property was Rs. 3350. The rash act of an outsider caused this disaster

(*c*) Again on that fateful day 26th February 1953 a railway passenger by an act of indiscretion enacted a macabre tragedy. 73 Up Passenger on the Eastern Railway left Gaya on that day but before it could reach the next station a sudden outbreak of fire was noticed in one of the compartments of one of the bogies on that train and the train was brought to a stand at about 2.55 P. M. Inspite of all the efforts of the railway staff and passengers, 5 passengers in that compartment were burnt to death and 9 passengers received burns and seven others were injured because they jumped out of the moving train. The total cost of damages to railway property in this case was Rs. 40,000. Enquiries made about this accident revealed that in the compartment some passenger was carrying a package containing a petrol tin and this package suddenly caught fire by coming in contact with the flame of a lighted match thrown carelessly by one passenger in the compartment after lighting a cigarette. This person who threw the lighted match in this careless manner, to whom it is also suspected belonged the tin of petrol paid with his life. A consummate example of public carelessness and ignorance indeed.

(*d*) On 13th March 1953 between 8 P.M. and 8.30 P.M. there was a heavy storm at Silliguri Town station on the North Eastern Railway. It so happened that a loose wagon was kept on that day on one of the lines at that station without securing the wagon with a safety chain as is required under the rules and without putting on and locking the scotch block (which is an appliance fitted to siding lines to prevent wagons from running away) on the line. The heavy storm blew away this loose wagon without the station staff becoming aware of this happening and the wagon came to a halt between Silliguri town and the next station Ambari Falakata. In the mean time 287 Up Passenger left Ambari Falakata at 8.26 P.M. on proper line clear and collided with this wagon in mid-section at 8.35 P.M. As a result of this collision 2 passengers received serious injuries, of whom one subsequently died and 3 received minor injuries. The cost of damage to railway property was Rs. 6108. The failure of the Assistant Station Master Silliguri Town in following the rules prescribed for applying the scotch block and for chaining of loose wagons with safety chains led to this sad accident.

(*e*) On 6th April 1953, at about 12.15 P.M. while 92 Up Diesel Rail Car running between Sanatnagar and Lingampalle stations on Bezwada-Wadi Section of the Central Railway was passing the Down Outer signal of Sanatnagar station the Rail Car Apprentice who was travelling in the rear cab of the car noticed smoke coming through the horse-hair fitter pipe opening situated on the bonnet of the engine. He immediately drew the attention of the driver by the application of the emergency brake and the driver soon after brought the Rail Car to a stand by applying the air-brakes. He sent his fitter to find out what was wrong and learnt of the fire and smoke in the rear cab. All the passengers in the rail car were safely detrained with their luggage and efforts were made to extinguish the fire. Within about 20 or 25 minutes the burning rail car was soon rolling towards Sanatnagar and it ultimately collided with the engine of 306 Up Goods train which was standing on the main line at that station. Luckily there were no casualties but the cost of damage to railway property was Rs. 137000 Enquiry revealed that the fire was due to the ignition of an oil-impregnated asbestos rope sticking out of the silencer case and remaining in contact with the hot exhaust pipe. No one was held responsible for this fire as the asbestos rope was neither easily visible nor was it suspected to be inflammable. The driver was, however, held responsible in that he did not apply his hand brake while leaving his cab as required under the rules and this failure resulted in the running away of the burning rail car and the subsequent collision.

(*f*) On 25-4-53 the work of oiling and greasing of fish-plates was being done between Sarnath and Kadipur stations on the North Eastern Railway. This is normal maintenance work for which the elementary precautions in the matter of exhibition of a red flag etc., have to be taken so that if a train approaches while a joint is still open the train may be stopped clear of the joint and passed after the joint had been secured. On this day the Keyman and the gangman who were attending to this work on this spot failed to take these precautions. 374 Dn Passenger approached the site at about 10·45 A.M. and the driver seeing men working on the track from a distance whistled when these men got away leaving one joint open. The train passing over this joint at normal speed got derailed by all coaches on it with the exception of the engine and the coach immediately following it. As a result of this derailment one passenger was killed on the spot, 5 received serious injuries of whom 3 died subsequently in Hospital and 31 received simple injuries. The total cost of damages to railway property was Rs. 8,500. The accident was due to the utter negligence of duty on the part of the Keyman and the gangmen. It was also found that the rules on the subject left much to be desired.

(*g*) At about 9·45 P.M. on 29-4-53 while 307 Down Nainital Express was on the run between Kichha and Baheri stations on the North Eastern Railway it got derailed and some of the bogies on it got capsized. As a result of this 3 passengers were killed, one received serious injuries and ten received minor injuries. The total cost of damage to railway property was Rs. 35,475. Enquiry revealed that the mishap arose due to sabotage as a joint on the track has been opened and a rail had been shifted by some miscreant unknown.

(*h*) The driver of a train coming into Basin Bridge, a station near Madras on the Southern Railway, although the signal was against him caused a disaster. It was the early morning of 26th of May 1953 and a light engine was started from Basin Bridge for Washermanpet on proper line clear and after setting the road properly for it. At the same time RC 81 Up Local was on the way from Washermanpet for Basin Bridge and as the road for it would cut across the road of the light engine the home signal of Basin Bridge for RC81 Up Local was kept in the danger position but the driver was negligent and he came past this signal and collided with the Light engine at about 6 A.M. As a result of this 26 passengers were injured, 5 of whom received serious injuries. The total cost of damage to Railway property was Rs. 8635.

(*i*) At about 5.45 P.M. on 30th May 1953 while M 50 Up Mankhurd-Kurla Local train of the Central Railway was travelling between Gavandi and Chambur stations it ran into road lorry No. BMS 7984 at a manned level crossing between Up Outer and Home signals of Chembur station. As a result of this collision one person was killed and one sustained minor injuries and the cost of damage to railway property was Rs. 4575. Enquiry revealed that at the time this accident took place the gateman on duty had gone to the station in accordance with the routine prescribed for him to draw his supply of kerosine oil for the night but while going in this manner he simply closed the gates of the level crossing but did not lock them and when the lorry approached the level crossing, its driver had his cleaner to open the gate even though the train was approaching and coming on to the track got involved in the collision. Had the gateman done his duty and locked the gate there could have been no collision. It must also, however, be stressed that the procedure requiring the gateman to leave his post of duty for drawing supply of kerosine oil is not a sound one.

(*j*) Between Mulacalacheruvu and Battulapuram stations on the Southern Railway the normal train working is on block instruments from which line clear authority is extracted in the shape of a ball token. At about 0.25 A.M. on 13th June 1953 the block instruments between these two stations failed and the telephones attached to these instruments also failed. No Telegraph instruments were provided at these stations at that time, so that these stations had no meas of communicating with each other and this state of affairs was discovered by assistant station master of Mulacalacheruvu when he tried to obtain line clear a little before 3.30 A.M. for 1148 passenger. He, therefore, started working trains in accordance with the procedure laid down for total failure of communications. In accordance with this procedure only regular notified trains are sent without line clear from one station to the other after taking certain precautions and through the guard of each train sent in this manner is despatched to the station master at the other end of the section an "Advice of the Next Train" in which it is indicated from which station after the arrival of this particular train the next train would leave. Under this system 1145 Passenger left Battulapuram on that day at 2.45 P.M. and when sending this train the station master of this station sent the "Advice of the Next train" to Station Master Mulacalacheruvu to say that the next train to enter the section would be from Battulapuram. Accordingly Station Master Battulapuram rightly started Goods train No. 3303 at about 11.5 P.M. but at the same time the Station Master Mulacalacheruvu in utter disregard of the "Advice of the Next Train" wrongly despatched Mixed train 1144 at 11.00 P.M. from his station. The result was inevitable and a serious collision between these two trains took place in mid-section at about 11.25 P.M. The casualties were very heavy namely 67 persons were killed and 69 received injuries of varying degrees. The total cost of damage to railway property was Rs. 2,16,428. The severity of the collision would perhaps have been greatly minimised if the drivers of the two trains observed the speed restriction which they are required to do in cases of total failure of communications. This most regrettable collision was, however, due to the Station Master Mulacalacheruvu not being careful in the performance of his duties. A suspicion also arises whether the system of working is not lax particularly when we remember that under the same set of circumstances the system of working on the S.I. Railway section of the same Railway is far more safe and under which an accident of this nature could not have possibly taken place.

(*k*) On 16th June 1953, No. 807 Up Goods was started from Katihar West, a station on the North Eastern Railway, at 10.40 P.M. on proper line clear being obtained from Semapur. This train was intended to cross 442 Dn Parcel Passenger Mixed at Semapur. The latter arrived Semapur at 10.50 P.M. and left without line clear at 10.52 P.M. and in consequence the two trains collided in mid-section at about 11 P.M. The train was non-vacuumed and hence the guard could not stop it but he as well as the station staff at Semapur and the passengers on the train made all possible efforts to draw the attention of the driver but failed. As a result of the collision 5 persons were killed on the spot, 15 were seriously injured of whom one died in hospital and 35 received simple injuries and the total cost of damage to railway property was Rs. 1,09,000. The accident was due to recklessness on the part of the driver of 442 Down in starting without line clear from Semapur.

(*l*) On 22nd August 1953 between Nawagaon and Bordhai stations on the Central Railway there was a serious collision in broad daylight due to unauthorised persons performing line clear work. 790 Up Goods had arrived Nawagaon station at 1.30 P.M. on that day and the station master on duty obtained proper line clear for it from Bordhai and despatched this train for that station at 2.18 P.M., the system of line clear working on the section being Paper Line Clear. It, however, transpired in the subsequent enquiry that the station master of Bordhai had earlier left his post of duty and this line clear was given by the guard of a train that was waiting at Bordhai and to whom apparently the station master had entrusted his station. After despatching this train Station Master Nawagaon also appeared to have left his station leaving his Private Number Sheet (which is a Sheet having a series of numbers which numbers are used as a code confirmation for line clear transaction) unlocked on his table. In the mean time, however, the guard who was unauthorisedly working at Bordhai issued a Paper Line Clear ticket to a light engine that was waiting at Bordhai from 11.50 A.M. and despatched it for Nawagaon at 2,20 P.M. without obtaining the proper line clear permission from Nawagaon. It is suspected that the guard did obtain a private number for the despatch of the light engine from Nawagaon because a correct private number is given on the Line Clear ticket that he gave for the light engine, but the Station Master Nawagaon having left his station after despatch of 790 Up, leaving his Private Number Sheet behind, the private number in all probability was given by some unauthorised person from Nawagaon. The result of this utterly reckless manner of working was that at about 2.40 P.M. there was a collision between the light engine and 790 Up Goods in mid-section in which the driver of the Goods train was seriously injured and the two firemen of the Goods train received simple injuries and the cost of damage to railway property was Rs. 47,600.

(*m*) Negligence on the part of staff led to a serious accident on the Secunderabad-Purli Vaijnath section of the Central Railway. On 13th September 1953, 486A Up Mixed train left Bidar at 12.28 P.M. but after travelling about 4 miles from the station it derailed on a descending gradient of 1 in 100, the track being straight at the site of the accident. As a result of this derailment one passenger was killed and 13 were injured of whom 3 received serious injuries, one of whom subsequently died in Hospital. The total cost of damage to railway property was Rs. 47,700. After enquiry the cause of derailment was held to be a combination of the following factors·

(1) Excessive speed (primary cause).

(2) Cross levels of track being out by 1" at the side of accident.

(3) Fatigue cracks and other defects in the plates of the right leading and left trailing springs of a wagon.

(*n*) While 485 Up Mixed train was running between Bechrajee and Rantej stations on the Western Railway, one brake adjusting pull rod of the tender of its engine got unfastened and stuck in the channel between the running and the guard rails of a level crossing in mid-section resulting in the train derailing at about 8.30 P.M. on 14th October 1953. As a result of this derailment two passengers were killed, one received serious injuries and three minor injuries and the total cost of damage to railway property was Rs. 37,720. The accident would not have taken place if the maintenance of the engine were proper and if the maintenance of the brake-gear in particular had not been neglected for a prolonged period.

(*o*) On 30th October 1953 at about 8·51 A.M. 15 Dn Grand Trunk Express derailed at Basin Bridge on the Southern Railway causing simple injuries to one passenger and causing damage to railway property of the value of Rs. 2,473. The derailment was due to the spreading of the gauge of the track, even when the train was travelling at the slow speed of 10 miles per hour. The spread of gauge took place due to very bad condition of wooden sleepers on the track and the absence of proper track inspection whereby the bad condition of sleepers could have been detected in time.

(*p*) On 27th December 1953, 1212 Down Goods started from pletform line No. 5 at Burdwan Central Yard on the Eastern Railway at about 6.50 P.M. for Gangpur to go over the Down Relief line. At the same time S124 Down Local train also started from platform No. 4 to Gangpur along the Down Main Line. OCY-44 Down which was at about the same time being pulled up from Burdwan Down Yard to Burdwan Central Yard on line No. 6 went beyond the Starter signal for that line which was in danger position and side collided with 1212 Down Goods on the points where line No. 5 and 6 meet. The two trains moved a short distance forward damaging the points. The Brake Van of 1212 Down Goods and 8 wagons ahead of it got derailed and two of these capsized to the right side and side collided with 4 coaches of S124 Down which was travelling on the adjacent line and these coaches were also damaged. As a result one person was seriously injured and 4 received minor injuries and the cost of damage toailway property was Rs. 31,400. Disregard of a signal by the driver led to this mishap.

(q) On 29-12-53 at about 10.25 A.M. 303 Up Deccan Queen collided with the rear of K18 Up Local at Masjid station on the Central Railway resulting in serious injuries to six persons and simple injuries to 41 persons and causing damage to railway property to the tune of Rs. 9,603. On that day an automatic signal on the Section was out of order but the driver of 302 Up when starting from the signal did not observe the prescribed rules which lay down that if the view upto the next signal is not clear he should send his assistant driver ahead with hand signals and should work his train at walkingpace following the signals given by the assistant driver. In this case the view of the next signal was not clear and yet he did not observe this essential precaution whose observance would have saved the collision.

(r) 899 Up Goods train arrived at Raxaul station on the North Eastern Railway at about 4.35 A.M. on 2nd January, 1954 and kept performing shunting with the help of its engine. At about 5.14 A.M. Assistant Station Master Raxaul gave line clear for 338 Down Passenger but in view of the shunting going on on the goods train the reception signals were not lowered for 338 Down. In the meantime, however, the driver of train engine of 899 Up while going ahead to detach one wagon did not stop but kept moving even past the Down Home and Outer signals of Raxaul station in disregard of hand signals displayed. He kept moving even beyond the Down Outer signals without having in his possession any authority to enter the section. The result was that the on-coming 338 Down Passenger collided with this engine about half a mile outside the Down Outer signal of Raxaul. In this collision 9 persons were killed on the spot, three persons received serious injuries and three received simple injuries. One of the seriously injured persons later died in hospital. The cost of damage to railway property was Rs. 50,821. This is an extremely disturbing accident because the driver of 899 Up acted in a manner inexplicable and one cannot but come to the conclusion that he was possessed of demoniac rashness.

(s) On 3rd January 1954 at about 3 P.M. while 754 Up Mixed was travelling between Karvan and Ganpatpura on the Western Railway, the 2nd to 10th vehicles on the train got derailed and as a result one passenger was seriously injured and 3 received simple injuries and the cost of damage to railway property was Rs. 8,500. Enquiry showed that the derailment was originally due to derailment of an empty wagon marshalled between loaded wagons on a non-vacuumed train and the derailment of this empty wagon was held to be due to a combination of the following factors:—

(1) the jerky motion of the wagon caused by the intermittent contact of the brake block with the wheel due to brake lever being in the 'applied' position and the brakes being out of adjustment.

(2) inherent tendency of an empty wagon marshalled between loaded wagons on a non-vacuumed train to be sprung off the rails.

(3) tendency of the right leading wheel of the wagon to hug the rail due to some defects in axle guards and axle boxes.

Here it was mainly neglect in maintenance which led to the accident.

(t) On 4th January 1954, No.4 Up Passenger train left Bhatinda station on the Northern Railway at 5 A.M. but after it had travelled a distance of about 4 miles it derailed at the approach of a syphon bridge. As a result of this derailment, which was of a severe nature, 16 persons were killed on the spot, 14 persons received serious injuries and 28 persons received simple injuries. One of the seriously injured persons later died in hospital. The total cost of damage to railway property was Rs. 1,44,111/13/-. After enquiry the cause of the accident was held to be the erosion of the railway bank by water rushing out from a breach in the embankment of an adjacent canal distributory. It is still open to question whether between the railway and the irrigation departments action was possible to avert this unfortunate accident.

23. The description of all the above cases draws pointed attention to the fact that a vast majority of serious accidents on Railways are brought about by the failure of railway staff to do their duty properly. It is also pertinent to remark that in some of the above instances the system of working could have been better than what was actually the case and we particularly refer to examples (*a*) and (*j*) in this connection.

24. The above instances do not, however, bring out the correct proportion of accidents due to defects in rolling stock as in most such cases the consequences are not as serious as would warrant the holding of an enquiry by a Government Inspector of Railways. The general conclusions arrived at by us in the previous chapter should not, therefore, be held in any doubt.

25. With the above exposition we come to the result that if the situation with regard to accidents on Railways has to be improved, first our attention should be focussed to the question of careful and proper working on the part of the staff and next we must dwell on the proper maintenance and upkeep of rolling stock. Other matters are comparatively minor in comparison.

CHAPTER IV

The Problem of Lapses in Working by staff

26. The General Manager of one Railway told us that the basic reason why railway staff on occasions happen to make indefensible mistakes—mistakes which sometimes have the potentialities of involving their own lives—is not their ignorance of rules but has its roots in the psychological make-up of the staff. The Chief Operating Superintendent of one Railway however opined that the failures on the part of staff is the work of train operation are due "either to lack of initial training or to the staff not being suitably impressed about the avoidance of even minor and slight accidents as it is minor accidents which if neglected ultimately breed major accidents." He went on to say that a minor breach of rules goes on and on till it results in a big accident and he felt that under the present day conditions the importance of avoiding even the smallest breach of rules was not fully impressed on the staff by the supervisors. The Chief Operating Superintendent of another Railway made the observation that the average standard of efficiency had got diluted due to various causes brought about by the War, the subsequent partition of the country and the implementation of the Adjudicator's Award* and as a result ill-trained staff had come to be introduced on Railways. Many responsible members of the public which included Members of Parliament complained bitterly of inadequacy of inspections on Railways and of serious indiscipline among staff—the latter being also a unanimous complaint on the part of all railway officials whom we interviewed. Some of the representatives of workers complained to us of shortcomings on—railways which strained the employees so much that they were apt to commit an occasional lapse which sometimes led to serious disaster.

27. Taking into account the evidence that we have been able to secure and our own observations, matters pertinent to the problem of staff failing to perform their duties of train operation properly and correctly are as follows :—

(*a*) Adequate training and periodic refresher courses.

(*b*) Adequate supervision and inspections.

(*c*) Award of adequate and prompt punishments for mistakes.

(*d*) Provision of adequate facilities for staff.

(*e*) **Elimination of unreasonable conditions of work.**

(*f*) Uprooting of indiscipline among staff.

(*g*) Improvement of the psychological background among staff.

28. In what follows we consider each of the above items separately.

SECTION A.—*Adequate Training & Periodic Refresher Courses.*

29. In respect of traffic staff connected with the work of running trains we have gathered the following information from Railways, confining ourselves only to the categories of guards, assistant station masters, pointesmen and traffic shunters :—

(*a*) *Eastern Railway* : There are two Training Schools namely one at Sealdah and the other at Sini. At Sealdah arrangements exist for initial training of guards and assistant station masters while no arrangements exist for initial training of pointsmen and traffic shunters and arrangements for refresher courses exist only in respect of assistant station masters. At Sini School arrangements for initial training of guards and assistant station masters exist but there are no arrangements for initial training of pointsmen and traffic shunters and arrangements for refresher courses exist only for assistant station masters, guards and pointsmen. In addition some guards and assistant station masters got initial training and refresher courses at the Chandausi School of the Northern Railway, but the Administration has no figures to quote about the number involved. We have however gathered the further information from the Chief Operating Superintendent that the Northern Railway has refused to take any more men of the Eastern Railway in Chandausi School for initial training or refresher courses. Thus the Eastern Railway can count upon only the schools at Sealdah and Sini for initial training and refresher courses for their staff. The figures supplied by the Railway in respect of refresher courses held at these schools are as under :—

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*The implementation of the Adjudicator's Award called for considerable increase in staff which meant rapid recruitment are rapid promotions thus accentuating the element of inexperienced staff.

Name of School	Category	Number of men who got refresher courses		
		1951	1952	1953
Sealdah .	Guards	Nil	Nil	Nil
	A.S.M.s	Nil	276	191
	Pointsmen	Nil	Nil	Nil
Sini	Guards	154	237	191
	A.S.M.s	84	93	119
	Pointsmen	140	285	237

Thus taking an average, the yearly number of guards who received refresher courses was 194 against the total guards' strength of 2652, the yearly number of assistant station masters who received refresher courses was 254 against the total assistant station masters' strength of 3446 and the yearly number of pointsmen who received refresher courses was 221 against the total pointsmen's strength of 7411. With the existing arrangements therefore a guard stands to receive a refresher course once every 13 years, an assistant station master once every 13 years and a pointsman once every 33 years :

(a) Our conclusions thus are that on this very important Railway no school arrangements exist for the initial training of two important categories of train passing staff namely pointsmen and traffic shunters and arrangements for refresher coureses even for categories for which they exist are of a ridiculously meagre order.

(b) *Central Railway*: There are two Training Schools at Bina and Bhusawal at which arrangements exist for initial training of guards and assistant station masters but there are no school facilities for initial training of pointsmen and traffic shunter. Arrangements existed for refresher courses at these schools for guards and assistant station masters but due to shortage of staff on account of the expansion of the cadres on implementation of the Adjudicator's Award it had not been possible to hold any refresher courses.

(c) *Northern Railway* : There are four Training Schools on this Railway. The ones at Chandausi and Saharanpur give initial training and refresher courses to guards and assistant station masters. The ones at Jodhpur and Bikaner impart initial training only to pointsmen and traffic shunters. The figures given by the Railway about guards and assistant station masters who received refresher courses during the years 1951, 1952 and 1953 reveal the same unhappy position as brought out in the case of the Eastern Railway.

(a) *North Eastern Railway* : Two Training Schools exist on this Railway namely at Gorakhpur and Gauhati at which initial training and refresher courses are provided for guards and assistant station masters. Taking the years 1951, 1952 and 1953 into account the average yearly number of guards who received refresher courses was 44 out of a total strength of 1162 and the average yearly number of assistant station masters who received refresher courses was 37 out of a total strength of 1187. This means that with the present arrangements a guard stands a chance of refresher course once in 26 years and an assistant station master once in 32 years.

(*e*) *Southern & Western Railways.*---To avoid being too laborious we do not give the position on these Railways in detail but the situation on these two Railways is also the same as has been found on the rest of the Railways.

30. The facts detailed above bring out the position that arrangements exist in Railway Transportation Training Schools for the initial training of Class III traffic staff concerned with the operation of trains but there are no arrangements in these schools for the initial training of Class IV staff. Class IV staff like shunting porters, pointsmen and traffic shunters learn their work by observing similar staff actually at work. Ultimately they are orally tested by a Traffic Inspector and if he certifies them as qualified for the performance of their respective duties, they are put on against working posts. It must be admitted that this is a very poor substitute for a proper training course in a training school and by this method we get men with a half-baked knowledge of their work. Further the standard of men actually at work at a station to which new recruits are deputed to pick up their work may be poor and then the new men also happen to learn wrong and defective ways of doing things. Taking all these facts into consideration we strongly recommend that adequate school facilities should be provided on all Railways for the proper training of Class IV traffic staff concerned with the operation of trains.

31. The number of Class IV traffic staff connected with train passing work is very large, and therefore it will neither be desirable nor practicable to have one Central School for a whole Railway for such staff. We recommend that schools for such staff should be opened at every large station with a definite area of the Railway allotted to each school.

32. It has further to be borne in mind that most of the class IV staff are illiterate or semi-literate and the imparting of a theoretical training to them is a matter of some difficulty. The choice of instructors for these schools has therefore to be very carefully and judiciously made as otherwise no useful purpose would be served by the schools. In this connection we might mention that during our tours we visited one Training School and saw one refresher class of Class IV staff in progress. The Instructor had written a few things in English on the black board and that prompted us to enquire of him whether everyone in the class knew English. He stated that most of them did but for the few who did not he was translating the technical terms in Hindi and such men took down notes in Hindi. We picked out one man and asked him as to what notes he had taken down. He had taken down none. We asked him as to whether he knew for what training course he had come in the School and he replied in the negative. He had already been in the School for three days and his ignorance even about the purpose for which he had come to the School pointed only to the fact that the Instructor had not been playing his part well. We have quoted this incident in detail only to bring out the importance of a proper selection of instructors for schools for Class IV staff.

33. As regards refresher courses we find that at present the Railways have very meagre arrangements for them even in so far as Class III staff are concerned. Train passing work is a highly responsible matter and a little mistake committed can result in very grievous consequences. It is therefore of the utmost importance that by arranging periodic refresher courses the knowledge of rules of staff is not allowed to get fossilised. We recommend that adequate arrangements should exist for ensuring that every traffic staff connected with the running of trains received a refresher course once every five years.

34. We recommend that simultaneously with the establishment of new Training Schools on an urgent priority basis, an investigation should also be made to see that the most intensive use is being made of the existing Schools. Schools are costly to maintain and therefore in every case a very intensive use of them must be made in the interests of economy.

35. The essence of the matter is that we must at minimum possible cost provide arrangements for efficient initial training for all categories of traffic staff who run our trains. Not only that, we must also provide arrangements for a periodic revision of their knowledge. Then only can we expect them to function in a manner they should.

36. We now come to consider the position as it exists in respect of Mechanical Department staff from the point of view of training and refresher courses. We will confine ourselves only to the categories of drivers, shunters, firemen and train examiners. The facts as furnished by Railways are as follows :

(*a*) *Eastern Railway.*—On the B. N. Railway portion no school facilities for initial training and refresher courses exist for this staff and loco foremen, loco inspectors and carriage and wagon inspectors instruct staff from time to time. On the E. I. Railway portion however proper arrangements exist for initial training of train examiners and arrangements also exist for refresher courses for them, but we have not got details available with us to determine whether refresher course arrangements are extensive enough for every train examiner to receive a refresher course after a reasonable interval. As regards firemen, shunters and drivers on the E. I. Railway portion, each Division is provided with a Staff Inspector to give initial training. In addition Adult Schools are being run in the major running sheds under charge of Adult School teachers selected from suitable Power Running Staff to provide training for these men. Arrangements for refresher courses for drivers exist but we have not got data available with us to determine whether in actual practice these courses are provided for each individual driver after a reasonable interval.

(*b*) *Central Railway.*—Arrangements for initial training and refresher courses for train examiners, firemen, shunters and drivers exist in the Training School at Bina but data is lacking to determine whether refresher courses at reasonable intervals are in actual practice provided to all staff. The fact however that the driver of the Deccan Queen which was involved in an accident on 29th December, 1953 had not gone up for a refresher course for 25 years leads one to the presumption that refresher course arrangements are far from adequate.

(*c*) *Northern Railway.*—Arrangements for initial training of train examiners, directly recruited firemen, shunters and drivers appear to be adequate, but firemen promoted from lower categories receive no initial training at a training school, and pick up their work by actual experience. There are no refresher courses for train examiners, firemen and shunters and the refresher course arrangements which exist for drivers seem to be rather inadequate.

(*d*) *North Eastern Railway.*—The position is no better than on the three Railways already dealt with. Refresher course arrangements are non-existent for some categories and for others they are of a token nature.

(*c*) *Southern Railway.*—This Railway has failed to furnish any information about firemen, shunters and drivers. Proper arrangements for initial training of train examiners exist but there are no arrangements of refresher courses for them.

(*f*) *Western Railway.*—Arrangements exist for initial training of train examiners and firemen but no such arrangements exist for shunters and drivers. Refresher courses for train examiners are provided only for a part of the Railway and there are no refresher course arrangements at all for the rest of the categories.

37. The summary for all the Railways as outlined above makes dismal reading and we are forced to the conclusion that the need of a sound and adequate training for the staff of the Mechanical Department concerned with the running of trains and the desirability of periodic revision courses for them are not given their due importance. Even haphazard

methods are sometimes employed. As for instance at one important loco shed we found an adult class of drivers and firemen being conducted by a teacher who had never been on the footplace in his life and yet he was teaching them their trade !

38. We recommend that on all Railways a comprehensive plan of facilities required for a proper initial training and periodic revision courses for all categories of staff of the Mechanical Department concerned with the operation of trains should be prepared and should be given top priority for execution.

39. As in the case of instructors for Class IV traffic staff so in the case of instructors for staff of the Mechanical Department, the choice will have to be made with great care as quite a considerable number of drivers and firemen are illiterate or semi-literate and the problem of giving them highly technical instruction is no simple matter.

40. As regards the Engineering Staff like permanent way mates and permanent way mistries we find that practically on all railways there are no training facilities worth mentioning. We recommend that for these staff who are the back-bone of track maintenance the desirability of introducing training and refresher course facilities must be considered on all Railways.

41. We must confess that the situation that we have found on Railways about affording basic training to staff and about ensuring that they do not slide back in their knowledge has left us rather unhappy. One Regional Traffic Superintendent complained before us that the station masters on his Region were not satisfactorily trained and in many cases had never attended a training school. One Chief Mechanical Engineer expressed the view that the position with regard to the training of train examiners was unsatisfactory. One Chief Operating Superintendent told us that due to the inadequacy of training schools the training of staff was being hampered. We therefore urge with all the emphasis at our command that the recommendations that we have made in this Section need immediate consideration.

42. We know that the provision of new training schools involves very heavy cost and may present practical problems. The best arrangement, we feel, would be for each Railway to have a few mobile training schools carrying all essential equipment including Model Room equipment and these could visit stations periodically for the purpose of holding refresher courses. The static schools could then be reserved for initial training only.

43. Another important matter in this connection is the syllabus and the duration of different courses. At present practices vary from railway to railway in this respect. We recommend that a Committee of Administrative Officers of different railways should be set up to introduce uniformity in the matter and to ensure that the syllabus of each course is comprehensive but not unnecessarily cumbersome and the duration of each course is adequate. In drawing up the syllabus this Committee would also have to ensure that the training covers both the practical and theoretical aspects of work.

44. We must also point out that the Railways referred to the difficulty of securing suitable instructors for training schools as the shortage of essential experienced staff on Railways is being felt. We would recommend that suitable retired employees should be engaged for the purpose by offering them sufficiently attractive terms. We understand that the terms under which retired staff can be employed at present are far from attractive.

45. The Indian Railway Enquiry Committee 1947 had commented in their Report as follows :—

> " From the evidence tendered before the Committee it seems clear that there has been no fall in the standard of ability of the new recruits. This applies specially to officers but holds good of the subordinates and the Class IV staff as well. If then the quality of the raw material has not deteriorated any fall in the efficiency of the machine can be attributed mainly to deterioration of training and supervision."

Our analysis shows that during the years succeeding the publication of this Report this valuable pronouncement has not received much attention in so far as training is concerned. As regards supervision we deal with the subject in the Section that follows.

RAILWAY BOARD'S OBSERVATION ON PARAS 29—45

The committee have observed (para. 30, page 31) that "arrangements exist in Railway Transportation Schools for the initial training of Class III traffic staff concerned with the operation of trains, but there are no arrangements in these schools for the initial training of Class IV staff". At the time the Committee was preparing the report, the Railway Administrations already had under consideration the setting up of Training Schools for Class IV staff. While reviewing the Accident Inquiry Committee's many recommendations on this subject, the Reviewing Committee have remarked "we noticed that lack of knowledge on the part of railway staff of the correct thing to do had not been the cause of any of the Accident studied by the Committee. Human failure was traceable to negligence, carelessness or temperamental defects rather than lack of knowledge of railway duties and procedures. A detailed analysis of train Accidents classified broadly as attributable to failure of staff to follow rules" and others has been given by the Reviewing Committee in Appendix E to their report (Copy of Appendix E attached). The analysis of the accidents reviewed by the Inquiry Committee shows that 1197 cases were due to failure of staff to follow rules. Out of these as many as 269 were derailments due to incorrect setting of points, non locking of points or mis-manipulation of points—a breach of the fundamentals and bad workmanship rather than causes attributable to ignorance of rules. 226 cases were train partings on account of heavy jerks—again a case of bad workmanship. There were 83 cases of Drivers running against signals, a feature which refresher courses can hardly help to eliminate. The necessity of extending Refresher Courses is recognised on general grounds, but in a report dealing primarily with the causes leading to accidents and measures necessary to prevent them. The question of provision of adequate facilities for refresher courses has been over emphasised. In para 37, page 35, the Committee have observed "the summary for all the Railways as outlined above makes dismal reading and we are forced to the conclusion that the need of a sound and adequate training for the staff of the Mechanical Department concerned with the running of trains and the desirability of periodic revision courses for them are not given their due importance." None of the accidents occurring over the period of one year and ten days reviewed by the committee could be attributed to ignorance of rules on the part of staff.

APPENDIX E

An analysis of train accidents which have been attributed to failure of staff to follow rules.

(Period 1-1-1953 to 10-1-1954)

	C. Rly.	E. Rly.	N. Rly.	N.E. Rly.	S. Rly.	W. Rly.	Total
Total train accidents during the period (due to all causes)	338	1,124	638	520	412	250	3,282
Accidents due to failure of staff to follow rules . .	155	365	258	161	186	72	1,197
Analysis							
1. Parting of trains due to heavy jerks, resulting in no further consequences . . .	1	131	75	3	13	3	226
2. Derailments due to incorrect setting of points, or non-locking of points or mismanipulation of points. . .	33	81	59	56	35	5	269
3. Derailments over traps and derailing switches or dashing of trains against Head-end buffers or sand humps .	31	22	17	..	18	1	89
4. Drivers running against signals, resulting in no consequences or mere bursting of points .	29	6	16	2	12	18	83
5. Averted collisions . .	14	18	15	8	20	6	81
6. Derailments due to rough or improper shunting . .	3	10	22	6	15	1	57
7. Derailments due to obstruction on track	1	20	13	7	7	1	49
8. Parting of trains due to loose couplings resulting in no further consequences . .	..	5	2	32	5	5	49
9. Collisions at stations involving a train . . .	3	15	5	9	4	2	43
10. Side collisions involving a train	4	8	7	7	5	4	35
11. Collisions between trains and road vehicles at a manned level crossing . . .	5	3	5	5	6	3	27
12. Derailments due to uneven loading	2	8	1	5	9	..	25
13. Dertailments caused by disregard of signals . . .	4	7	9	5	2	..	27
14. Trains leaving a station without line clear resulting in no consequences . .	9	6	5	..	8	..	28
15. Trains leaving a station with a wrong authority to proceed resulting in no consequences	3	..	..	..	2	12	17

APPENDIX E—*contd.*

	C. Rly.	E. Rly.	N.Rly.	N.E. Rly	S. Rly.	W. Rly.	Total
16. Wrong reception or despatch of trains at station due to incorrect setting of points .	1	11	5	8	1	5	31
17. Bursting of points during shunting or during reception and despatch of trains .	..	2	..	..	13	..	15
18. Collisions between trollies and trains	4	9	1	2	1	2	19
19. Collisions between two trains between two stations . .	2	2	..	4	1	..	9
20. Train parting and ssubsequent collisions between parted portions of the train . .	..	..	1	2	4	2	9
21. Vehicles running away from stations . . .	..	1	..	..	4	..	5
22. Driver losing token on the run	1	..	..	..	1	2	4
	155	365	258	161	186	72	1,197

APPENDIX E—*concld.*

Other causes

	C. Rly.	E. Rly.	N. Rly.	N.E. Rly.	S. Rly.	W. Rly.	Total
1. Parting of trains due to flaw in metal resulting in no further consequences . . .	66	440	230	86	69	24	915
2. Derailments due to defects in rolling stock or engines caused by flaw in metal or design .	33	39	27	71	25	34	229
3. Derailments due to a combination of causes or other miscellaneous causes . .	15	64	27	40	32	4	182
4. Derailments due to defects in rolling stock and engines for which maintenance staff are responsible . . .	16	25	15	21	13	13	103
5. Derailments or partings of trains for which a responsibility could not be established or has yet to be established . .	13	19	14	50	23	18	137
6. Partings of trains due to faulty maintenance resulting in no further consequence . .	..	46	13	31	14	7	111
7. Collision between a train and a a road vehicle at an unmanned level crossing . . .	14	10	7	12	12	13	68
8. Derailments due to defects in track	6	21	7	29	10	5	78
9. Derailments due to running over cattle	7	..	8	6	1	2	24
10. Parting of trains described as as accidental and resulting in no further consequences .	11	4	2	..	1	..	18
11. Collisions between a train and a road vehicle at a place which is not a level crossing . .	..	5	5	3	..	1	14
12. Fires caused on trains by sparks from engines . .	..	17	13	..	6	8	44
13. Fires on trains due to electrical causes	..	17	4	3	2	3	29
14. Fires on trains due to cigarette ends, etc. . . .	..	5	4	2	1	4	16
15. Fires caused on trains by friction and other miscellaneous causes . . .	1	19	4	1	2	..	27
16. Fires whose cause remains undetermined . . .	..	..	..	..	..	30	30
17. Fires on trains whose cause is still under investigation .	..	..	..	..	..	2	2
18. Sabotage cases on trains .	1	1	..	1	..	3	6
19. Attempted sabotage . .	..	27	..	3	15	7	52
TOTAL . . .	183	759	380	359	226	178	2,085
GRAND TOTAL . . .	338	1,124	638	520	412	250	3,282

SECTION B : *Adequate Supervision and Inspections.*

46. On our visit to a certain Divisional Headquarter we found that the Divisional Superintendent had personally issued circular instructions to his Divisional and Assistant Officers and to his Inspectors to conduct a prescribed number of night inspections every month. We were however surprised to find that some of the Divisional Officers had completely neglected the instructions and with the rare exception of an officer or an inspector no one had conducted the prescribed number or anywhere near the prescribed number. The scale laid down for these inspections by the Divisional Superintendent was most reasonable and the matter that struck us most was that the Divisional Superintendent had taken no notice of the fact and was indeed completely innocent of the knowledge that his specific orders had been dealt with rather chevalierly by Supervisors at all levels. With impunity were the inspections neglected.

47. At another Divisional Headquarter we called for the Travelling Allowance Journals of the Divisional Operating Superintendent for the whole year 1953. We found that in the month of January he left his office only for 3 days accompanying the Inspection Special Train of the Government Inspector of Railways. In February he stayed put throughout in his office. In March he went out for 2 days only to attend the meeting of a Chamber of Commerce. April was again a month of no movement. In May he moved out only for one day to attend a court of law and incidentally also inspected a station. In June he was out for 2 days for inspection and in July he did not go out at all. Thus over a period of seven months this Divisional Officer holding an important portfolio conducted practically no inspections and evidently his Divisional Superintendent was not perturbed about this state of affairs.

RAILWAY BOARD'S OBSERVATIONS ON PARAS. 46-47

The Reviewing Committee called for detailed information about the average monthly touring " in inspection days per month " done by Officers of various levels of different railways and a summary of the information as obtained from the Railways is given below :—

Central Railway

Designation	Engineering Deptt.	Trans. Deptt. (Tfc)	Trans. Deptt. (Power)	Mech. Deptt.	Signal & inter-locking Deptt.
Sr. Administrative Officer . . .	4	8	..	4·5	4·0
Jr. Administrative Officer	3·8	2	2	1	..
Senior Scale	7·5	5	7	..	7·5
Junior Scale	9·7	7	9	..	9·0
Divisional Superintendent	..	7	..	..	..

Eastern Railway

Designation	Department					
	Transportation	Commercial	Mech.	Engineering	Electrical	Signals
Sr. Administrative Officer .	6·2	6·0	8·7	6·7	2·3	6·2
Jr. Administrative Officer .	5·2	1·5	3·7	5·2	0·6	1·5
Sr. Scale	6·2	7·3	6·1	8·04	4·4	7·9
Asstt. Officers	7·3	5·6	8·1	10·2	2·2	4·3

Northern Railway

(Operating, Mechanical, Engineering and Signals Deptt.)

Senior Administrative Officers	4·8
Junior Administrative Officers	6·1
Senior Scale Officers	6·31
Junior Scale Officers	8·33
Inspectors (exclusive of Inspectors of Engineering Branches)	14·42

North Eastern Railway

C.O.P.S.	14
Dy. C.O.P.S.	5·3
R.T.S.	12
D.T.S.	11 (in no case less than 8)
A.T.S.	7 (,, ,, ,, ,, 4)
D.T.S./R	2

Southern Railway

	Traffic	Mech.	Engineering.	Signals
Sr. Administrative Officer	9	4·0	11·0	10
Jr. Administrative Officer	8·3	8·0	8·5	..
Senior Scale Officers	12·8	11.6	14·8	10·0
Junior Scale Officers	7·6	9·2	16·0	..

Western Railway.

	Traffic	Mech.	Enginering.	Signals
Sr. Administrative Officer	7	6	6	7
Jr. Administrative Officer	5	7	7	..
Senior Scale Officers	8	7	7	6
Junior Scale Officers	7	5	10	7

Detailed information showing the inspection days done by each officer of certain railways was also called for. A perusal of these statements shows that in very few cases officers failed to perform a reasonable minimum number of inspections.

48. We examined three diaries of loco inspectors of a railway in which they record the particulars of their activities. We gathered that most of their time was being taken in accompanying trains by which High Personages including the General Manager travelled or in attending meetings and the actual inspection work was meagre.

RAILWAY BOARD'S OBSERVATIONS ON PARA. 48

The Committee have not appreciated the fact that when Inspectors travel in trains carrying high personages, they still continue to do their job of inspection. A Loco Inspector is expected to travel on the train during his inspection. The mere fact that he is travelling on the engine of a train carrying a high personage does not mean that his time is being wasted. Besides this, a check on movements of Loco Inspectors of the Delhi Division of the Northern Railway where the maximum number of High Officials move showed that, on an average, for the year 1953, the time spent by a Loco Inspector in accompanying High Officials did not exceed 3·4 days in a month.

49. During our visits to certain stations we examined the Inspection Registers and the impression that we gathered was that the inspections of stations both by officers and inspectors were most infrequent. The same impression was confirmed when we called for inspection reports at certain Divisional and Regional Headquarters which we visited.

50. All railway officers of all levels whom we interviewed complained to us bitterly about an enormous increase in their desk work which kept them glued to their tables and seriously hindered outdoor inspection work whose importance they realised. They all appreciated that this situation was not healthy but at the same time from General Managers downward they all appeared to be helpless about it.

51. Not only that we found that the inspections on railways were very infrequent but also that their quality was poor. We asked the Chief Operating Superintendent of one Railway if he was satisfied that supervisory staff were carrying out their duties properly. He replied "compared with what the position was about 15 years ago I cannot claim that the supervisory staff are carrying out their duties properly. The supervisory staff are trying to do their best but the supervision is not very effective. The resason is that extra work has devoloved on various categories of supervisory staff which was not the case in the past and as a result the scope for concentration now is very much less." Some of the Regional Officers whom we interviewed stated before us that at present the majority of District Officers were men with very little service and in a large number of cases they did not know their job well and hence the standard of their inspection was very poor. The few inspection reports that we personally examined gave us the impression that they were more in the nature of a formality, to show that some inspections were being conducted rather than a real effort to delove into things and dig for defects. The Indian Railway Enquiry Committee, 1947 had commented, "We have been rather struck by the comparatively low standard of subordinate supervision in almost all branches except perhaps the Civil Engineering." Far from there having been any improvement in the situation since then there has actually been a deterioration and the standard of supervision at all levels has come down. In particular about the aspect of safety of operation there appears to be pratically no inspection as the insepction reports which we went through showed.

52. This is a very disturbing state of affairs from the point of view of incidence of accidents on railways. Every one on the railways has the realisation that due to a combination of various circumstances there have been accelerated promotions, bringing unripe men into positions of great responsibility. Assistant Station Masters with very little length of service are working on main routes of railways, men with little driving experience who in normal times would not have been considered fit as shunters are working as drivers, inexperienced men are working as subordinate supervisors and officers just after finishing their period of probation have been holding charge of District posts. In this situation the need for the most intensive inspection and supervision from the highest level to the lowest is the greatest. But unfortunately, everyone appears to be so involved in his files and so pre-occupied with routine meeting sthat inspections are rare and perfunctory.

53. With this being the situation about inspections on railways a very improper step, in our view, was taken by the Railway Board inasmuch as they took the initiative to abolish the normal inspections of railways by Government Inspectors of Railways —inspections which concerned themselves primarily about the aspect of safety of operation. In accordance with the Railway Act each Government Inspector of Railways was required to inspect a certain proportion of his jurisdiction every year to ensure that no unsafe conditons existed. But in August 1953 these inspections were abolished by an executive order. The argument given given by the Railway Board was that with regrouping of railways the State control of railways had become almost universal and therefore there was no object in a non-railway authority like a Government Inspector of Railways conducting Inspections. They claimed that thc responsibility for ensuring that the conditions of operation were safe had to be squarely faced by each Railway Administration who would have to conduct necessary inspections itself for the purpose. With the situation demanding more and more inspection work it is painful for us to note that the Railway Board arrived at this regrettable decision.

54. We strongly recommend that in the interests of public safety the inspections of railways by Government Inspectors of Railways should not only be restored but made more intensive than they were before the were completely given up. Government Inspectors of Railways are highly qualified technical men who by virtue of their having to enquire into all serious accidents on railways gather a deep knowledge of the shortcomings on railways and being not connected with the actual working of railways can with a dispassionate eye bring to light defects in the system of working or other operating conditions which may hold in themselves germs of accidents. Railway officers who have to actually run the railways may on cosiderations of expediency deliberately or unwittingly overlook certain matters but a Government Inspector of Railways with an independent outlook is not likely to do so and there is thus special merit about his inspections in so far as safety is concerned. Moreover we have to appreciate the fact that due to various peculiar circusmtances prevailing on Railways at present the Administrative Officers on Railways are heavily involved in ensuring the achievenment of higher and higher operating results and with this preoccupation the question of saftey of operation cannot, inspite of the best endevaours on their part, receive that attention which it deserves. Regrouping of Railways has increased the extent of their jurisdiction and made their duties highly taxing and complex. Under present day conditions therefore the need for inspections by Government Inspectors of Railways is very real.

55. Even if for the purpose of conduct of fairly intensive inspections by Government Inspectors of Railways, in addition to the conduct of enquiries about serious accidents, an increase in the cadre of the Inspectorate becomes necessary we feel that the step would be highly justified and should be taken. Any reasonable expenditure which is calculated to make for safety on railways is a very wise investments.

RAILWAY BOARD'S OBSERVATIONS ON PARAS 53-55

The question of abolition of the annual routine inspections of the G.I.Rs. has been fully discussed by the Reviewing Committee. It cannot be suggested that this step has led to any laxity or an increase in the number of accidents. In fact there has since been a progressive decline in the number of accidents.

The G. I. R. is still quite free to go about and make his own inspections. What has been abolished is a programmed inspection accompanied by the General Manager and all the principal officers of the Railway as this arrangement lacked an element of surprise essential for inspections.

56. Then we must also stop to consider the universal complaint of railway officers about the gargantuan proportions of table work with officers of all levels. The vehemence with which this complaint was voiced carried conviction. One reason we surmise is a growing tendency towards centralisation. As one Chief Operating Superintendent put it "a lot of correspondence has to go on with the Railway Board to explain away ordinary day to day problems where previously such references were not necessary. If matters have to be improved a lot more decentralisation is necessary and a lot less embrrassing interest in details by the Railway Board was required.......... In the past all day to day matters were dealt with by the General Manager who was in touch with the day to day working and to whom things could be explained by means of breif notes but now that the Railway Board questions even matters of details the time of officers is wasted in preparing these for its benefit while the real productive work which should do waits. "Apart from this growing tendency towards centralisation there are several other causes for increase in office work namely a spate of correspondence and complaints arising out of shortge of wagons or arising out of restrictions on certain movements, a tremendous increase in the volume of traffic itself, a huge volume of establishment problems arising out of Partition,implementation of the Adjudicator's Award and Pay Commission's scales, the tortuously complicated procedures involved in the revised Discipline and Appeal Rules, the laborious manner of holding enquiries and the increased attention to relations with Trade Unions. There is also the considerable strain of work on account of a large number of questions which are asked in Parliament about railway matters in the framing of replies

whereof extensive desk-work is involved. This vastly increased desk-work has to be done and cannot wait and correspondingly the inspection and supervision worn suffers. A harassed and over burdoned officer with comparatively little experience at his command tries to mahe some time for an odd inspection of some description but it is rarely that he finds it possible to make much opportunities.

57. A retired Chief Commissioner of Railways told us that inspite of tremendous increase in office work in District offices of Railways, the District set-up in so far as the officers were concerned remained the same as it was fifty years ago. The result of this, he stated, was that the officers in Districts were badly over-burdened and could not discharge their responsibilities properly. There was no time left with them to inspect stations and the inspection work was being entrusted to inspectors only and was therefore not being properly discharged.

58. Extreme inadequacy and infructuousness of out-door inspections by officers has brought down the standard of work at stations to a very low ebb. This in itself creates more office work. And thus a vicious circle has been brought into play.

RAILWAY BOARD'S OBSERVATIONS ON PARA. 58

The Committee have commented on the extreme inadequacy and infructuousness of outdoor inspections by officers. As has been pointed out earlier in these remarkes, these observations are of a sweeping character. Closer examination of the details does not indicate that such a generalised comment is warranted.

59. This vicious circle has got to be broken. We recommend that an immediate Departmental Committee should be set up to thoroughly analyse the routine office work with a view to weed out what is unnecessary as we feel convinced that there is ample scope for judicious pruning. In addition this Committee should make an assessment of the number of officers required for satisfactory discharge of the work after the unncessary portion is cut out and if on the basis of this assessment additional officers are required they must be provided. We may here point out that the members of the Southerm Railway Users' Consulatative Committee who met us in Madras strongly advocated that if after a proper investigation it was found that the number of supervisors on railways was inadequate, immediate action should be taken to increase their number.

60. The essence of the matter is that very urgent steps are called forth to increase the frequency and standard of outdoor inspections on railways, because it must be appreciated that an organisation like the railway cannot remain efficient without concentrated supervision. This is important not only from the point of view of prevention of accidents but otherwise too. The realisation of this desideratum will be possible after the suggestion put forward by us in the last paragraph is given effect to so that adequate time is available with each officer to devote to outdoor inspections without expecting the officer to be an untiring machine.

61. We feel that after it has been ensured that adequate time would be available with all officers for outdoor supervision no hard and fast time table of inspections should be laid down for them. We consider that more valuable results would be achieved if officers of all grades are given the feeling that the Railway Administration considers them as highly responsible people not requiring their liberties to be fettered in any manner to ensure conduct of proper inspections by them. At the same time it should be impressed on them that the Administration would demand the state of highest efficiency in their jurisdiction and it would be upto them to ensure it. If they fail in this regard their failure should be taken serios notice of.

62. As regards inspectors it would be necessary to lay down a rigid time table of inspections which should provide for a reasonably frequent detailed inspection of each station in addition to a given number of general inspections from the footplate of an engine. In

drawing up this time table a careful account should be taken of the other work which an inspector has to attend to so that it may be ensured that unreasonable conditions are not enforced on inspectors. Once this has been done a very meticulous compliance of the time table should be demanded and any failure on the part of an inspector should result in serious action against him.

63. We must further stress here that all officers must be advised that their inspection work must include fairly frequent night inspections and surprise inspections. Night inspections are of very great value because it is at night that staff tend to slacken off and thus arise chances of slip-shod working. Once staff come to realize that someone might be prowling round to see how they are working there will be a curb on this tendency. Again surprise inspections have a great psychological effect on staff and tend to keep them always alert on duty. Such inspections can always be arranged by officers by travelling as ordinary passengers without informing anyone of the destination for which they are bound. We may mention here that almost all members of the public whom we interviewed pressed for night and surprise inspections being arranged on railways. Such inspections should also be prescribed for inspectors.

64. Besides ensuring a sufficiency of inspections the quality of inspection should also be ensured. This can easily be achieved. If an inspector inspects a station, the officer receiving his inspection report can occasionally for the purpose of test check immediately visit the same station himself and inspect it and then determine whether the inspector inspected it properly or not. If as a result of this check it is found that the inspector's inspection was perfunctory he should be made to realise it so that each inspector would come to appreciate that he has to do his inspection work properly. The same method could be applied to inspections conducted by officers as well.

65. We came across instances where the inspection report of an inspection was prepared many days after its actual conduct thus greatly detracting from the value of the inspection itself. We would suggest that it should be demanded that an inspection report should be written out immediately after the inspection and should be submitted to higher authorities within a specified number of days.

66. Follow up action on inspection reports must always be promptly ensured and every irregularity discovered in the course of an inspection must be taken up with staff responsible without any loss of time. It must be appreciated that it is much better that no inspection at all is held than to hold one and then to let defects brought to light as a result of the inspection go unnoticed. Staff become completely indifferent and callous to mistakes if they get the feeling that even if their mistakes are found out they stand a good chance of escape. The Committee has sadly come across instances in which follow up action on inspection reports is neither prompt nor effective.

67. It must also be impressed on all officers and inspectors that their inspections must not only be fault finding but also should be educative for staff. During their inspections they should be able to impress on staff how by a little thing here and a little thing there they can improve the standard of work at their station.

68. Inspections among other things must concern themselves with safety of operation There must be a complete check of train passing records and train passing equipment. All supervisors on railways have to appreciate that the fundamental expectation of the public from railways is safety of transport.

69. Lastly we must suggest that at all stations Inspection Registers should be opened in which all inspecting officials should note down the fundamental results of their inspections apart from the drawing up of detailed inspection notes. This will enable all visiting officials to formulate an idea about the working of the station as also to formulate an idea of the standard of inspections that are being carried out.

SECTION C—*Award of Adequate and Prompt Punishments for Mistakes.*

70. Proper training of staff and adequate inspections and supervision, matters which we have dealt with so far, are preventives against the commission of mistakes by staff. Along with preventive methods resort has also to be made to curative methods which consist of adequate and prompt punishments for mistakes. Unless staff held responsible for an error of commission or omission is punished commonsurately with the gravity of the error without loss of time, the tendency is for employees to get callous and the incidence of commission of errors increases. Unfortunately however our observations are that at the present time there is considerable laxity on Railways in the matter of award of punishments. We quote a few instances to bring home the points :—

(*a*) On 28th October, 1953 the driver of 563 Down started his train from Badnapur on the Central Railway without line clear, a most heinous mistake, but all that was done to the driver was to withdraw him from the main line passenger trains and to put him to work branch line trains (presumably without monetary loss).

(*b*) On 19th September 1953 the driver of 4 Up Pathankot Express passed the Up main line starter signal of Sanchi station on the Central Railway in the danger position but he was only fined rupees ten.

(*c*) On 21st November, 1953 the driver of 389 Down passenger passed the Down Outer Signal of Bargarh station on the Central Railway in the danger position but his Divisional Transportation Superintendent proposed only to reprimand him. The Chief Operating Superintendent of the Railway however intervening got the penalty enhanced to a fine of Rs. 10 only.

(*d*) On 8th August, 1953 while engine of 357 Down was coming out of the parcel siding at New Delhi station on the Northern Railway its tender derailed of all wheels at trap points due to the cabinman reversing the points while the engine was still on them. The outdoor Assistant Station Master was also held responsible for not supervising the shunting. The punishments awarded were however only stoppage of passes and P.T.O's for six months in respect of the Assistant Station Master and for twelve months in respect of the cabinman.

(*e*) On 21st January, 1953, 32 Down passenger was started from Bareilly station on the Northern Railway without obtaining line clear and after issue of a defectiv signal order for the Down Advance Starter. For this serious mistake the increment of the Assistant Station Master was withheld for 6 months only.

(*f*) On 20th November, 1953, 317 Up booked to cross 2 HP at Jafarganj station on the Northern Railway over-shot the up starter signal and entered the advance block section when 2 HP was approaching thus causing an averted collision. But for this serious error the driver merely had his passes and P.T.O's stopped for two years.

(*g*) On 2nd March, 1953, the driver of 699 Down passed the Down Outer and Home signals of Bayana station on the Western Railway at danger and brought his train to a stand 250 feet short of the engine of 852 Up Goods, averting a collision. The latest position as on 4th March, 1954, more than a year after the accident, was that no punishment had been awarded to the driver.

(*h*) On 20th November, 1953 the driver of 303 Down ran over a Banner Flag between NRL and SCH on the Western Railway and for this serious mistake he was only fined Rs. 15.

71. We cut short this listing of cases of astoundingly inadequate punishments for the sake of brevity but there is abundant evidence that punishments in accident cases are in a large number of instances neither swift nor sufficiently deterrent. As a matter of fact one Divisional Superintendent had noted down in one of his Tour Reports that in the course of discussions with the Deputy Chief Operating Superintendent it was brought to his notice that very light punishments were being inflicted on staff held responsible for accidents. The Railway Administrations thus appear to be cognizant of this unsatisfactory situation but evidently they have not been able to remedy it so far.

72. In giving evidence before us all railway officers have complained that the procedure of holding enquiries has now become very laborious and the Discipline and Appeal Rules very cumbersome. They have all stated that in this situation the punishments to staff can neither be swift nor severe. The work involved in awarding any major punishment is so tortuous and heavy that officers have begun to shirk it and resort to comparatively minor punishment howsoever incommensurate they might be to the actual gravity of he offence

73. The position in this respect has become so extensively bad that even the public is aware of it. All members of the public who gave evidence before us brought out this point and insisted that the situation must be remedied quickly. They all vehemently proposed that if the rules regarding punishments had been made restrictive they must be relaxed and adequate powers restored to officers so that they could impose deservedly severe punishments on staff without having to suffer the torture of a legalistically laborious procedure. They went even so far as to suggest that if an amendment of the Constitution was necessary for the purpose it should be undertaken. Because, they pointed out, that unless railway staff are brought the feeling home that careless work on their part would result in grave consequences to them there could be no improvement regarding the incidence of accidents on railways.

74. One restrictive factor in the matter of award of punishments is the Payment of Wages Act. Under this Act the conditions under which a fine may be imposed are so restrictive that the imposition of a fine on staff governed by the Act has become almost an impossibility. Further the maximum amount of fine that can be imposed is also very small. Another restriction brought on by this Act is against reduction in pay in the same time-scale. We strongly feel that a modification of the Act is called for, at least in so far as punishments arising out of accident cases are concerned.

75. We have also noticed that the procedure required to be followed in awarding the punishments of reduction in grade and removal from service is very cumbersome. We would strongly recommend a simplification of this procedure so that the more burden of this procedure may not prevent infliction of these punishments where they are deserved, as is happening under the present circumstances.

76. Suggestions have also been put forward by some railway officers that a subconscious fear of Trade Unions drives officers to the award of comparatively lenient punishments. This, if true, is a very undesirable development and steps must be taken by all Railway Administrations to restore confidence among officers in this respect.

77. We would also recommend that there should be a routine rule on all railways that if the same staff has been punished four times in accident cases, he should be removed from service after following the due formalities, as evidently the man is unfit for the responsible work of train operation. We are sure that such a rule if adopted will have a very healthy psychological effect on staff and will go a long way in reducing the incidence of accidents on Railways.

RAILWAY BOARD'S OBSERVATIONS ON PARA. 70 TO 77.

The Committee have observed that there is considerable laxity on Railways in the matter of award of punishments. They have suggested more prompt and more severe punishments.

The remaks of the Railways on the various instances quoted by the Committee of delay in imposing punishments of awarding only mild punishments are given below :—

The Committee have concluded that punishments are neither swift nor deterrent. As regards swiftness in imposing punishments, the Committee have recognised that the work involved in awarding major punishments is tortuous and cumbersome and they have suggested radical changes in rules. They have also stated that the Payment of Wages Act has a restrictive effect and have also indicated that staff who have been punished four times in accident cases should be removed from service.

This suggestion is unfortunately not a practical one. The punishments awarded to staff in individual cases depend not only on the gravity of the offence, but also the circumstances under which the breach of rules took place. As would be seen from the remarks of the Railways, the earlier record of the man, the conditions obtaining at the time the accident occurred and, in some cases, humanitarian considerations influence the severity of the punishment. The Committee have quoted one Divisional Superintendent as having noted that it was brought to his notice that light punishments were being inflicted on staff held responsible for accidents. There are a larger number of cases where the officers have the reputation of being very severe in their punishments. Conclusions drawn from a few isolated cases here and there can therefore, not form a correct basis for a general verdict of this nature. The Railways also feel that it will not be possible to enforce a standard rule that staff who have been punished four times in accident cases should necessarily be removed from service. Carried to its logical extreme, the Committee's conclusion would mean that a cabinman who has put in 25 years of service in his job which requires setting of points practically continouusly during the 8 hours shift of work should be discharged from service if during this long period in four cases he is held responsible for mismanipulation of points.

Railway	Points made in the Report	Remarks of the Railway
Central.		On this Railway, the punishments awarded to staff held responsible for accidents are reviewed personally by the C.O.P.S. and in cases of accidents for which staff from other than the Operating Department are responsible, Head of the Department concerned. Where punishments are not considered adequate they are enhanced. With regard to particular cases mentioned by the Enquiry Committee in their report, the following remarks are offered :—
	(a) On 28th October, 1953 the driver of 563 Down started his train from Badnapur on the Central Railway without line clear, a most heinous mistake, but all that was done to the driver was to withdraw him from the main line passenger trains and to put him to work branch line trains (presumably without monetary loss).	(a) The transfer of the driver from the main line to the branch line did involve an appreciable monetary loss in earnings. His average earnings before the transfer were Rs. 445/- p.m. After he was transferred to the branch line, his emoluments were reduced to Rs. 327/- indicating a loss of nearly Rs. 120/- p. m. The punishment awarded was, therefore, adequate.
	(b) On 19th September, 1953 the driver of 4Up Pathankot Express passed the Up main line starter signal of Sanchi station on the Central Railway in the danger position but he was only fined rupees ten.	(b) The home and outer signals were correctly taken off for the reception of the train. The driver had applied the brakes to bring the train to a stop before starter. but through an error of judgement, the driver passed

Railway	Points made in the Report	Remarks of the Railway
		the Up main starting signal at sanchi by the engine and half bogie length. The driver has 36 years of service and was 54 years of age and was due to retire shortly. The normal punishment awarded to a driver passing signals at danger is reduction in pay or grade. In this case the driver had passed a signal at danger not because of lack of vigilance but due to an error of judgment. In view of his good and long record od service, the D. V. S., Jhansi considered that a fine of Rs. 10/- would meet the requirements. Taking the man's long record of service into consideration and considering the circumstances under which he had passed the signal at danger a lesser punishment than normally imposed was issued to the dirver.
	(*c*) On 21st November, 1953 the driver of 389 Down passenger passed the Down outer signal of Bargarh station on the Central Railway in the danger position but his Divisional Transportation Superintendent proposed only to reprimand him. The Chief Operating Superintendent of the Railway, however, intervening got the penalty enhanced to a fine of Rs. 10 only.	(*c*) In this case the driver of 389 Down Passenger ex-Jubbulpore to Allahabad passed the Down outer signal in the 'ON' position by half an engine length. The Committee made the following remarks in the Remarks and reasons for the Finding :— "The driver of 389 Down witnesses No. 1 S. A. Raymer in his evidence has stated that the estimating circumstances that led to his passing the Down outer signal in the 'ON' position were due to the mist and smoke screen caused by the early morning fires lit by the residents of the adjacent villages approaching the Down outer signal. This evidence is borne out by witnesses No. 2 Guard F. Mathanga, No. 3 Fireman Ram Singh Tribhawan, No. 4 Augwalla Ramrattan Ramcharan and No. 5 Brakesman Aximullah. From the evidence of all these witnesses it is established that the driver had his train under control and that he passed the Down outer signal by half an engine length due to an error of judgment caused by tears coming out of his eyes on account of intense cold and foggy atmosphere created by smoke and mist." It will be observed that the circumstances under which the driver passed the Down outer signal in the ' ON ' position, which was only by half an engine length, were not entirely within control. The driver has 27 years of service

Railway	Points made in the Report	Remarks of the Railway
		and on account of his good record when working on the passenger service, the D. V. S. proposed to censure the driver but it was considered that censure was not enough and punishment was enhanced to a fine of Rs. 10. It is considered that the punishment imposed met the requirements.
Northern.		The Committee have recommended a link between the quantum of punishment and the type of offence committed. The Committee has overlooked the fact that quantum of punishments must also be based on the past record of the staff at fault. It is for this reason that sometimes the punishments awarded to staff committing the same type of offence vary in degree. In the instances of lenient punishments cited by the Inquiry Committee in para 70(d), (e) and (f) pertaining is the Northern Railway, the position to given below :—
	(*d*) On 8th August, 1953 while engine of 357 Down was coming out of the parcel siding at New Delhi station on the Northern Railway, its tender derailed of all wheels at trap points due to the cabinman reversing the points while the engine was still on them. The outdoor Assistant station Master was also held responsible for not supervising the shunting. The punishments awarded were, however, only stoppage of passes and P.T.Os. for six months in respect of the Assistant Station Master and for twelve months in respect of the Cabinman.	(*d*) In the case of derailment of engine of 357 Down, the derailment occurred on a trap point when the engine was coming out from the Parcel Siding at New Delhi, after detaching two motor trucks. Cabinman was held responsible for reversing points under the wheels. As the Cabinman had a clear record for two years before the date of this accident, his privileges were only stopped for 12 months.
	(*e*) On 21st January, 1953, 32 Down Passenger was started from Bareilly station on the Northern Railway without obtaining line clear and after issue of a defective signal order for the Down Advance Starter. For this serious mistake, the increment of the Assistant Station Master was withheld for 6 months only.	(*e*) In the case of 32 Down Passenger starting without line clear from Bareilly on 21-1-1953, the next increment of Assistant Station Master held responsible was withheld for a period of 6 months, effecting his future increments. The Assistant Station Master was drawing Rs. 80 in the grade of Rs. 64—4—120—EB—170. It is felt that the punishment was somewhat lenient.
	(*f*) On 20th November, 1953 317 Up booked to cross 2 HP at Jafarganj station on the Northern Railway over-shot the up starter signal and entered the advance block section when 2 HP was approaching thus causing an averted collision. But for this serious error the driver merely had his passes and P.T.Os. stopped for two years.	(*f*) In the case of 317 Up over-shooting the Up starter signal and causing an averted collision with 2 HP at Jafarganj on 20-11-1953, the position is as under :— (*i*) Jafarganj is ordinarily a run through station for 317 Up but on this date she was required to cross 2 MF. According to the driver, the warner was dropping which he took for being lowered

Railway	Points made in the Report	Remarks of the Railway
		for run through. As due to entanglement of wires it may be possible that the warner was drooping, the driver was not given the punishment of reduction in grade as it was felt that when he noticed the starter at danger he tried his best to stop the train which passed this signal by one engine and 3 bogie length. The booked speed of the train is 45 m.p.h.
		(*i*) It was proposed to withhold his next increment but as he was drawing the maximum of the grade, his passes and P. T. Os. were withheld for two years. The next higher punishment of reduction to a lower grade would result in a reduction in emoluments of Rs. 40/- in pay and Rs. 234/- in mileage allowance—a total Rs. 274/- monthly-a punishment much heavier than the case warranted.
Western	(*g*) On 2nd March 1953 the driver of 699 Down passed the Down Outer and Home Signals of Bayana station on the Western Railway at danger and brought his train to a stand 250 feet short of the engine of 852 Up Goods, averting a collision. The latest position as on 4th March, 1954, more than a year after the accident, was that no punishment had been awarded to the driver.	(*g*) The case referred to by the Committee in this item is one of the cases where there was unfortunately delay in finalishing the penalty to be imposed, Such delays are not common. Action has, however, been taken since to place the driver under suspension. A charge-sheet has also been served on him for removal from service and the usual disciplinary procedure has been initiated to consider the imposition of appropriate penalty on him.
	(*h*) On 20th November, 1953 the driver of 303 Down ran over a Banner Flag between NRL and SCH on the Western Railway and for this serious mistake he was only fined Rs. 15/-.	(*h*) There was no delay in imposing the penalty in this case. the driver in this case was fined Rs. 15/-. It is felt that this punishment is perhaps somewhat on the lenient side.

78. Before we end this Section we must state that we do not recommend any modification in the procedure for holding enquiries because it is in the fitness of things that each case is very thoroughly enquired into to avoid an innocent man being punished.

Section D : *Provision of Adequate Facilities for Staff.*

79. A fundamental facility or we might even call it a necessity for staff who have to work trains is the General and Subsidiary Rule Book which contains the basic laws regulating railways traffic which every driver, station master, assistant station master, cabinman, etc. We to know. Further, it is more important that the staff should have a copy of the Rule. Book in a language they can read. We however learnt that except on the *ex* East Indian Railway and the North Eastern Railway this important book is not translated into any of the Regional Languages and the book is available only in English. We know that many of our drivers to whom these rules are like the very breath of life are completely unlearned in English and yet this state of affairs has been allowed to exist. A driver carries on his shoulders the responsibility for the lives of the hundreds who are travelling in the train he drives and it is a matter of life and death that he should know his safety rules very thoroughly. Yet here

on most railways far from being provided with frequent refresher courses he is not even supplied the Rule Book in a language that he can read. The Railways appear to be trusting on a very long memory of the driver which trust is poor satisfaction to the passenger, who travels on railways. It is also being very unfair to the staff if one expects the staff to follow the rules. We cannot too strongly recommend that on all Railways the General Subsidiary Rule Book should be printed in all the Regional languages current in the area of each Railway and a copy supplied to all staff who have to observe these rules in the language the staff can read.

80. There is another important point in connection with rule books. The General & Subsidiary Rule Book is an omnibus volume containing rules for the observance of drivers, station masters, guards and some other categories of staff too. The presentation is such that each category of staff have to read quite a lot which really pertains to other categories of staff. Then there are other rule books also which contain rules which have to be observed while working trains. We have Traffic Manuals, Standing Order Books, Appendices to Working Time Tables, Block Working Manuals and such like. And the staff are expected to know and apply stray rules arranged in stray order in all these books and we know that sometimes even for an officer it is a voyage of discovery to trace a rule of which he has a vague recollection. To have such a plethora of books for staff who are poorly educated and whose intellectual background is very meagre is not a very sound proposition. We recommend that each Railway should get out separate brochures for every different category of staff in which should be contained all the different General & Subsidiary Rules applicable to that category in addition to all the other rules which that particular cateogry of staff have to observe. Thus we will have a Driver's Hand Book, a Station Master's Hand Book, a Guard's Hand Book, a Train Examiner's Hand Book and so on. These little books will serve to make staff fully conversant with the entirety of their duties, will reduce the scope of essential reading for each staff, will make the assimilation of rules easier and will make the task of instructors in training schools simpler. We feel that the introduction of such brochures on Railways will greatly improve theoretical knowledge of staff which would mean a very valuable achievement in the campaign of curbing accidents on railways. Of course the General & Subsidiary Rule Book will remain in addition as the fundamental scripture of railway operation.

81. Before we pass on from the subject of rule books we must draw attention to one important fact. Some years ago the question of revision of the General Rules came up and a Committee was appointed for the purpose. This Committee finalised its labours and submitted a draft of the revised General Rules about three years ago but the final decision as to whether the existing General Rules would be allowed to stand or the revised ones should be brought into force has not yet been announced by the Government. We interrogated the Member Transportation, Railway Board, about this and he informed us that the financial implications of the change over were being examined and it might still take sometime to arrive at a decision.

82. In the meantime, as is well known, the railways have been regrouped and each regrouped railway is composed of a number of units, each unit being either a slice or the whole of a previous distinct Railway. It is also known that every pre-regrouping Railway had its own distinct subsidiary and other rules. The result naturally is that on each regrouped Railway each unit has a separate set of rules (apart from General Rules) operating and this has naturally created complications. The officers on Railways maintained before us that except for the Subsidiary Rules they were trying to unify the rules but that the unification of the Subsidiary Rules was awaiting the issue of the revised General Rules. As a matter of fact the Southern Railway Officers told us that the unified Subsidiary Rules based on the revised General Rules had already been got ready by them. The issue of the revised General Rules is however still uncertain and therefore in our view it is essential that to avoid complications for staff as also for officers unified Subsidiary Rules should without delay be enforced on each regrouped railway based on the existing General Rules. The existing state of

confusion can be well imagined when it is realised that in the same training school of a regrouped Railway staff for the various units of the Railway have to be trained. When for example a class of newly recruited assistant station masters is trained up in a training school it must be receiving instructions according to one set of Subsidiary Rules but when these men get actually posted, they naturally would get distributed among the various units of the Railway where Subsidiary Rules and other rules are heterogeneous. The practical difficulties are clear and the situation is thus made very difficult for staff. This state of affairs needs a very early remedy as it must be well appreciated that any confusion in the minds of staff in connection with rules for operation of trains is fraught with dangerous possibilities.

83. The rule books contain general directions for working of railway traffic but at each station, a set of Station Working Rules is provided laying down the procedure of reception and despatch of trains and the procedure for conducting shunting at that particular station. These Station Working Rules have a great importance in securing safety of operation because to the staff at each station they provide definite directions rather than trust to their general knowledge of rules and leave them to apply it in their own way at the station at which they are working. The more detailed and comprehensive these Station Working Rules are, the more satisfactorily it is ensured that the staff will not be led into wrong ways. Our enquiries however reveal that on some Railways the Station Working Rules are very sketchy and incomplete and to that extent the guidance given to staff is of a low order. There are even cases where wrong facts are given in the Station Working Rules and to that extent the staff are misguided. Lastly we have observed that the practice of detailing the procedure to be followed by staff in case of abnormal working that is when one or more of the normal conditions under which trains are dealt with at the station get inoperative, is non-existent on many Railways. In other words in conditions in which staff need the maximum guidance they are left to their own resources.

RAILWAY BOARD'S OBSERVATIONS ON PARA. 83.

The Working Rules are intended to supplement the General & Subsidiary Rules in view of the special peculiarities and local conditions at each station and only such information as is required in view of these considerations is included in the Working Rules. The Railways feel that if entire pages of General & Subsidiary Rules on abnormal working are included in the Working Rules, the Working Rules will become bulky and the whole object of focussing the attention of the staff to special features of working of a station will be apt to be lost sight of. This matter has been considered very carefully in the past and ultimately the Railways have come to the conclusion that brevity in Working Rules is extremely desirable. Naturally essential details must not be omitted, but when a reference to an existing General or Subsidiary Rule is necessary it is unnecessary to repeat it, as the staff can always refer to the respective rule book which are in their possession.

84. To make our point about the unsatisfactory nature of Station Working Rules more clear we detail below our comments on the rules for Kurukshetra station on the Northern Railway, a Railway on which the standard of these rules is fairly good :—

(a) The station is described as having Standard III interlocking and yet it is also stated that the main line at the station is not isolated. This involves a mutual contradiction.

(b) For reception of trains when a signal is defective it is laid down that the cabinman on duty will pull all the relevant levers for the setting and locking of the line over which the train is to pass and then to advise the assistant station master on duty of his having done so over the telephone, confirming the message with a private number. The assistant station master would then issue the defective signal form and have the train piloted. We however feel that the giving of the private number by the cabinman gives no positive assurance that the correct line has been set. In case of any accident there would be a likely dispute between the cabinman and the assistant station master and it would be an impossible matter to resolve the dispute. For such cases line labels should be provided to secure definiteness and to avoid any possibility of a dispute.

(c) It is laid down that when it is necessary to receive train on a blocked line or on a non-signalled line, the assistant station master should obtain an assurance from the cabinman on duty to the effect that the conditions laid down in General Rule 37 have been fully complied with by obtaining a private number over the telephone. Here again we feel that the procedure does not secure positive safety and line labels should be provided for the purpose.

(d) Nothing is laid down about the procedure to be followed by a station master in case there is a slot or telephone failure.

RAILWAY BOARD'S OBSERVATIONS ON PARA 84

The Railway's Remarks appear below :—

S. No.	Paragraph number of the Enquiry Committee's Report or Item No. of Annexure 'B'	Points made in the report	How far covered by the recommendations in the Latham's Report on derailments and the decision of the Railway Board thereon—in respect of cases which are covered by the Latham's Report	Remarks of the Railway in respect of the points indicating *inter alia* the feasibility of giving effect to the suggestions and recommendations and the extent to which any similar recommendations made by the Latham's Report have already been implemented
1	2	3	4	5
	Para. 84(a)	Kurukshetra station is described as having standard III interlocking & yet it is also stated that the main line at the stations is not isolated. This involves a mutual contradiction.	Not covered.	The interlocking at Kurukshetra fulfils the requirements of Standard III. The run through line, however, is not isolated. The reason for this is that on account of peculiar layout of the track at Ambala end, the speed of run through trains had to be restricted to 20 M.P.H. In view of this restriction at one end of the yard, it was not considered economical to provide isolation and speed from the other direction also has been restricted to 20 M.P.H., and Warner signals have been fixed at both ends.
	Para. 84(b) & (c)	In commenting on the instructions for reception of a train when signal is defective, contained in Kurukshetra working rules, the Committee consider that the giving	Not covered.	The exchange of Line Labels at large stations, specially where cabins are far away from the ASM's office, would result in considerable delays to trains. New in all the cabins literate cabinmen are provided.

1	2	3	4	5
		of the private Nos. by the Cabinman to the ASM on duty as an assurance that all relevant leavers for the setting and locking of the line over which the train is to pass have been pulled for the reception of a train is not sound enough. The Committee recommends that in such cases, line labels should be provided which should be exchanged between the ASM & the Cabinman.		Private numbers are exchanged in respect of a number of train operations even at other stations and no change is considered necessary. In respect of the particular cases of reception of a train when signal is defective and reception of a train on a blocked line, the trains are piloted by duly qualified men. The pilot on the engine has to ensure, before permitting the train to move, that the points are set for the required road. The substitution of Line Labels for Private Number for exchanging between A.S.Ms., and Cabinmen will not serve any useful purpose ; on the contrary this will result in delays to trains.
		Similarly in the case of reception of train on a blocked line or unsignalled line, the private Nos. given by the Cabinman as an assurance that conditions laid down in G.R. 37 have been complied with do not secure positive safety & line labels should be provided for safety.		
	Para. 84(d)	Nothing is laid down in the Working Rules of Kurukshetra station about the procedure to be followed in case there is a slot or Telephone failure.	Not covered.	The failure of a slot is equivalent to failure of signals and rules for dealing with trains in the event of signal failures are contained in the Subsidiary Rules. In case of failure of telephone, the only obvious method of communication is by memos It is not necessary to include such obvious things in Working Rules.

85. Taking into account the important role which Station Working Rules play in the safe operation of trains we recommend that a uniform standard should be laid down for these rules on all Railways. We further recommend that in these rules the normal method of reception and despatch of trains should be completely described and in addition detailed directions should be included for meeting abnormal situations like failure of inter-cabin telephonic communication, failure of slots, failure of signals, failure of interlocking etc. It must be remembered that working is most difficult when any abnormal conditions prevail and it is for such occasions that the maximum possible guidance should be provided rather than leave staff to their own resources.

86. Further to ensure that an important document like the Station Working Rules of a station gets constantly reviewed with a view to discover any lurking mistakes and also with a view to effect possible improvements we recommend that a reutine revision of the Station Working Rules should be prescibed once every five years.

87. We also suggest that to pin-point attentionto safety of operation it should be prescribed that in addition to other inspections every Assistant Traffic Officer and every District Traffic Officer on a District or a Division must monthly inspect one station reviewing the Station Working Rules and all other safety provisions at the station and then record a formal certificate that the system of working at the station is safe in every respect. In case he discovers any fault then he should initiate action to have that fault put right promptly.

88. While on the subject of rules we must also draw attention to the fact that for common contingencies which arise on railways like total failure of communications between stations and temporary non-availability of one line of track on a certain portion of a double line section different Railways provide different rules for working of traffic. The surprising part is that the rules prescribed for these contingencies on some Railways are far more unsafe than on others. For instance the serious accident which took place between Mulacalacheruvu and Battulapuram on 13th June 1953 when there was a total failure of communications between these two stations and which took a very heavy toll of life would very definitely not have taken place if the rules as in force on the ex-South Indian Railway were operative. Obviously since these are situations common to all railways there is no justification for each Railway having its own peculiar rules for these situations when some of these rules are positively unsatisfactory. We recommend that the Railway Board should prescribe uniform rules for working of traffic under such conditions, picking out from the extent variety of rules the ones which are most safe.

RAILWAY BOARD'S OBSERVATIONS' ON PARA 88

While not underestimating the importance of framing a correct set of rules, it is necessary to point out that the accident between Mulacalacheruvu and Battulapuram was a direct result of "utter disregard" of the rules (to quote the Enquiry Committee themselves) by the Station Master, Mulacalacheruvu. The Committee have also remarked that the severity of the collision would perhaps have been greatly minimized if the drivers of the two trains observed the speed restrictions which they are required to do in cases of total failure of communications. It is not quite clear, how in the face of their own conclusions as indicated above, the Committee have later concluded that the accident was a result of laxity in rules.

———

89. It has also been brought to our notice that in some cases impracticable provisions are made in the Working Rules. For instance one of the staff whom we interviewed pointed out that at a certain uninterlocked junction the rules require that the Points Jamadar should personally man the facing points for reception of trains, but while only one Points Jamadar is provided in each shift of duty trains arrive almost simultaneously from the main line and the branch line with the result that it is impossible for the Points Jamadar to comply with the rules. We do not know how far this represents the truth but we must state that special care should be taken that all rules that are prescribed are practically capable of compliance. The tendency to lay down formal rules without regard to their practicability must very carefully be guarded against as otherwise the staff feel bewildered and suffer from the sense that the Administration is throwing its burden on them in an unjustified manner.

90. Leaving the subject of rules and rule books we touch upon the subject of interlocking which is a highly valuable facility for staff as it provides a security against the possiblity of their committing mistakes. On sections of heavy traffic the absence of interlocking causes severe strain to staff responsible for dealing with trains and under such strenuous conditions staff are apt to adopt short-cut methods and thus give rise to situations which may bring about accidents. It is therefore essential that on all sections of heavy traffic we should provide

for a high standard of interlocking so that the uncertain human element may be eliminated as much as possible. We will even go further and add that even on sections of light traffic some sort of rudimentary interlocking should be provided as a protection against staff committing an error.

RAILWAY BOARD'S OBSERVATIONS ON PARA 90

While the necessity for progressive interlocking of non-interlocked section is fully recognized, it is felt that this point can be over emphasized leading to a mistaken notion about the efficiency of interlocking in eliminating accidents. Consistent with the avalibality of material, the Railways have programmes for the progressive provision of this facility. It is to be emphasized that the limiting factor in this matter is primarily not funds as has been made out in the Enquiry Committee's Report but the shortage of material. Interlocking, however, is not a panacea for all accidents. Accidents at non-interlocked stations are not all attributable to the absence of interlocking at those stations. On the contrary, most such accidents can be traced to disregard of a specific duty and interlocking is no cure for such carelessness. An analysis of the accidents on all the railways under the headings collisions, averted collisions and side collisions is given below as Appendix I. This will show that the majority of accidents have happened at interlocked stations. Also the nature of accidents at non-interlocked stations is such that interlocking could not have in most cases prevented the accidents. A detailed analysis showing the nature of accidents, and the causes that led to the accidents is enclosed, from which it will be seen that the absence of interlocking has not played any significant part in causing the accidents.

APPENDIX I

Analysis of collisions, side collisions and averted collisions (1-1-53 to 10-1-54)

	Central Railway			Eastern Railway			Northern Railway			N. E. Railway			Western Railway			Southern Railway			All Railways		
	Interlock stations	Non-inter-locked stans.	TOTAL	Interlocked stations	Non-inter-locked stns.	TOTAL	Interlocked stations	Non-inter-locked.	TOTAL	Interlocked stations	Non-inter-locked'stns.	TOTAL	Interlocked stations.	Non-inter-locked stns.	TOTAL	Interlocked stations	Non-inter-locked stns.	TOTAL	Interlocked stations	Non-inter-locked stns.	TOTAL
No. of Stations	472	254	726	580	391	971	653	291	944	245	552	797	304	582	886	829	185	1014	3083	2255	5338
Collisions at	8	2	10	9	8	17	2	1	4(one in Block Sec.)	7	9	16	..	2	2	4	1	6 (one in Block Sec.)	30	23	53) in Block Sec.)
Side Collisions at	4	..	4	7	1	8	2	..	2	1	3	4	..	4	4	2	..	2	16	10	26
Averted Collisions at	10	4	14	16	2	18	8	5	13	5	4	9	..	6	6	17	1	18	56	20	76

Analysis of collisions, averted collisions and side collisions on Central Railway

	At interlocked stations.	At non-inter-locked stations.
Collisions	8	2
Side collisions	4	..
Averted collisions . . .	10	4

Analysis by Causes

	Interlocked stations			Non-interlocked stations	
	Disregard of signals	Violation of working rules	Carelessness	Disregard of signals	Carelessness
Collisions	2	..	6	1	1
Side collisions	1	..	3	..	..
Averted collisions	3	..	7	..	4

CENTRAL RAILWAY

Causes of accidents at non-interlocked stations

Collisions	1	due to guard of goods train, instead of A.S.M., obtaining line clear.
	1	due to wrong setting of points.
	2	
Averted Collisions.	1	signal taken off by A.S.M. without getting "all clear" from Guard regarding train being clear of fouling mark.
	1	due to incorrect setting of points.
	1	due to Guard not checking whether his train was clear of fouling mark.
	1	train being piloted by unauthorised person.

Analysis of collisions, averted collisions and side collisions at non-interlocked stations of Eastern Railway

	Date	Station	Remarks
Collisions.	1-4-53	Between Wazirabad and Tilaiya.	Despatch of train into the blocked section by A.S.M.
	29-10-53	Topsi . . .	Setting of points for blocked line.
	10-5-53	Diamond Harbour .	Disregard of signals by the Driver.
	16-11-53	Betnoti . . .	Disregard of 'Stop' Board by the Driver.
	15-2-53	Between Bhoma and Seoni.	Train allowed in blocked section by A.S.M.
	16-3-53	Khirsadoh . .	Wrong setting of points and reception of train on wrong line which was blocked.
	15-2-53	Raipur (Narrow Gauge).	Reception of train on wrong line, which was blocked.
	15-1-53	Sambalpur Road .	Driver failed to regulate the running of his train according to the Working Time Table, travelled at excessive speed and failed to keep a good lookout.
Averted Collisions			
	27-11-53	Katrasgarh . .	Faulty maintenance of slot gear allowed receptions signals to be lowered over, a patch being crossed by a departing train. Staff also guilty for leaving slot lever off after previous movement.
	29-12-53	Amlai . . .	Failure to ensure that line was clear before lowering signals.
Side-Collision	29-4-53	Ranchi Road . .	Wrong signal given by Shunting Porter during shunting.

NORTHERN RAILWAY

Averted Collisions

Date	Station	Whether interlocked or non-interlocked	Remarks
30-1-53	Dasuya	Non-interlocked	Violation of rules.
2-2-53	Kalka (MG)	„	„
9-2-53	Bareilly (MG)	„	„
22-6-53	Banaras Cantt. . . .	Interlocked	„
„	Lhaksar Junction	„	„
14-7-53	Mahajan (MG) . . .	Non-Interlocked.	„
4-8-53	Kanpur Central . . .	Interlocked	„
19-8-53	„	„	„
21-9-53	Mondh	„	„
29-10-53	Jind Junction . . .	Non-interlocked	„
7-11-53	Prayag	Interlocked	„
20-11-53	Jafarganj	„	„ (Over shooting)
26-12-53	Rosa	„	„
Side collisions			
1-6-53	Lucknow	Interlocked	Violation of rules/line.
8-10-53	Meerut Cantt. . . .	„	„ fouled.
Collisions			
21-3-53	Between Lalgarh & Bikaner (MG)	Does not arise	Two water tanks at Lalgarh uncoupled & rolled down with blocked section and collided with one engine coming from Bikaner.
29-6-53	Moradabad	Interlocked	Violation of rules.
3-8-53	Lucknow Junction . .	„	„
18-8-53	Hissar Junction(MG). . .	Non-interlocked.	„

Due to absence of Lock and block

Nil

Analysis of collisions, side collisions and averted collisions at non-interlocked stations of North Eastern Railway from 1-1-1953 to 10-1-1954

	Date	Station	Remarks
Collisions	4-1-53	Bhirakheri . . .	Driver of Up Goods special ran againts signals.
	13-3-53	Between Siliguri Jn. & Bagdogra.	Wagon not having been secured with safety sprag and chain, was blown away by storm.
	13-3-53	Bet. Home & Outer signals of Chapramukh.	Do.
	13-3-53	Between Ambari-Flakata and Siliguri Town.	Do.

	Date	Station	Remarks.
Collision contd.			
	19-5-53	Siliguri Jn. . . .	Breakage of coupling screw rod of a wagon.
	2-7-53	Dhekiajuli Road . .	Wrong setting of points.
	2-1-54	Between Bhelwa and Raxaul	Driver of 899 Up Goods proceeded beyond the outer signal disregarding the signals of station staff.
	4-1-54	Pandu	Wrong setting of points.
	4-1-54	Between Ratabari and Baraigran.	S. M. Ratabari failed to issue a caution order to the driver of the train as required vide G.R. 325.
Side Collisions.	10-4-53	Aunrihar Jn. . . .	The wagon was kept on the adjacent line fouling the line from which 73 Up was leaving.
	19-4-53	Gaunaha . . .	Wrong setting of points.
	11-9-53	Jakhanian . . .	Performance of shunting fouling the track.
Averted Collisions.	9-2-53	Bareilly Jn. . . .	Wrong setting of points.
	19-3-53	Bareilly City . . .	Reversal of points by the Jamadar after the Home signal had been lowered.
	16-4-53	Izatnagar . . .	Driver of 759 Up entered against signals.
	23-10-53	Lucknow Jn. . . .	Performance of shuting in face of approaching train.

ANALYSIS OF COLLISIONS, SIDE COLLISIONS AND AVERTED COLLISIONS AT NON-INTERLOCKED STATIONS OF WESTERN RAILWAY

Date	Station	Whether inter-locked or non-interlocked	Remarks
Collisions			
2-1-53	Ratlam	Non-interlocked Goods Yard.	Incorrect settting of points.
26-9-53	Jamnagar Yard . . .	Non-interlocked .	Incorrect setting of points.
Side Collisions			
19-1-53	Agra East Bank Yard . .	Do.	Simultaneous conflicting movement of a load and a train.
9-7-53	Bandra Marshalling Yard .	Do.	Simultaneous conflicting movement of a load and a goods train.
15-4-53	Idar	Do.	Wagon taken outside the fouling mark, resulting in collision with a train.
7-9-53	Neemuch	Do.	Wrong setting of points.
Averted Collisions			
2-3-53	Bayana	Do.	Driver disregarded signal at danger.
11-8-53	Bildi	Do.	Driver passed signals at danger due to failure of brake power.
16-1-53	Radhanpur . . .	Do.	Wrong setting of points.
22-1-53	Bandikui	Do.	Do.
29-6-53	Wankaner	Do.	Driver passing signals at danger.
28-5-53	Sandasal	Do.	Wrong setting of points.

SUMMARY OF THE ANALYSIS OF ACCIDENTS ON SOUTHERN RAILWAY

Collisions

Collisions at interlocked stations	4
„ in Block Section	2
„ at non-interlocked stations	1
Side collisions at interlocked stations	2
„ „ non-interlocked stations	..
Averted collisions at interlocked stations	17
„ non-interlocked stations	1

ANALYSIS OF COLLISIONS, AVERTED COLLISIONS AND SIDE COLLISIONS, SOUTHERN RAILWAY

COLLISIONS

Date	Station	Whether interlocked or non-interlocked	Remarks
9-1-53	Collision between train and Trolly between Sangan Jagarlakund and Angalakudu	Block Section	Disregard of Rules by P.W.I. P.W.I. died in the accident.
26-4-53	Srivilliputhur	Non-interlocked	Reception arranged on obstructed libe. S.M. violated General Rules.
13-4-54	Guntakul	Interlocked	Reception arranged on obstructed libe Cabin A.S. M. responsible for violation of rules.
26-5-53	Basin Bridge	Interlocked	Driver ignored signal at danger.
13-6-53	Between Mulakacherulu and Battalapur.	Block Section	Disregard of rules.
3-12-53	Bezwada	Interlocked	Violation of General Rules.
AVERTED COLLISIONS.			
20-1-53	Gooty	Int.	A.S.M. violated working Rules.
2-2-53	Trichinopoly Junction	Int.	A.S.M. violated working Rules.
23-2-53	Tuni	Int.	Violation of general Rules.
17-5-53	Madras Beach	Int.	Violation of Working Rules.
25-5-53	Pollachi	Int.	Wrong setting of points by pointsman.
7-6-53	Egmore	Int.	Violation of Working Rules.
23-7-533	Kokalancheri	Int.	Violation of General Rules.
30-7-53	Budalur	Int.	Violation of General Rules.
28-8-53	Coimbatore.	Int.	Unauthorised Operation of S. M.'s Control by Cabin A.S.M.
3-10-53	Mambalambattur	Int.	Violation of Working Rules.
19-10-53	Kotayur	Int.	Violation of General Rules.
26-10-53	Tenmalai	Int.	Do.
14-10-53	Guntur	Int.	Do.
6-12-53	Shenoli	Int.	Do.
8-12-53	Vridhachalam	Int.	Do.
29-12-53	Kaveripettai	Int.	Do.
12-10-53	Chemkanarkil	Non-interlocked	Shunting in face of an approaching train.
18-11-53	Pritragunta	Int.	Violation of Rules. Violation of General Rules.
SIDE COLLISIONS			
18-11-53	Raichur	Int.	Violation of working Rules.
25-7-53	Rajahmundry	Int.	Violation of working Rules.

91. Surveying the situation as it exists we find that on some Railways even on the main trunk routes completely uninterlocked stations are interspersed between interlocked stations and these uninterlocked stations are generally large stations. The argument put forward is that at large stations all trains have to stop and therefore it is not much of a compromise with safety to leave these stations uninterlocked. To our mind the argument is fallacious because the larger the stations the greater the number of movements it has to contend with and more therefore the chances of mishaps. The assistant station master at such stations trusting all the time his wits and his class IV staff is likely to trip sometime and shambles might be the consequences. Why must we face this risk ?

92. We recommend that no station on the main trunk routes should be left uninterlocked and whereever interlocking does not exist at present, it should be provided. Further it should be seen that the standard of interlocking at all stations on a section should be the same so that the running through speed for a train may be the same at all stations. Another safety provision which is essential at large stations where intensity of passenger train services is heavy and where considerable shunting is involved is the track circuiting of passenger lines.

93. Again on double line sections complete lock and block is not provided on all sections of the main trunk routes which carry very heavy traffic. We recommend that to cut out chances of all possible errors complete lock and block should be planned for all such lines.

94. On heavily worked single line sections the provision of token instructions should be considered as minimum necessity and a definite level of traffic should be decided upon which if attained would make the provision of token instruments imperative. We suggest that this level should be traffic in excess of three trains per day each way. Further where token instruments are installed, the last stop signal must be interlocked with the instrument.

95. We cannot recommend the total elimination of paper line clear working on single line sections. The system is quite satisfactory for sections where traffic is light, that is not in excess of 3 trains per day each way. But we would suggest a slight modification in details. At present no Train Signal Register is maintained at stations for paper line clear work so that there is no continuous record of train transactions, both up and down available with the assistant station master. This at times can cause forgetfulness and confusion and lead to some serious lapse. For a constant reminder to the assistant station master about the state of the block section we recommend that even where paper line clear system of working is in force, a Train Signal Register should be maintained. This would reduce the chances of error in working.

96. There are certain sections of the double line which are still worked on paper line clear system. We consider that this is an anachronism and on all such sections double line block instruments should be provided.

97. Some accidents have taken place in the past where at the time of crossing of trains, the token for one train has been delivered by mistake to the other train. Of course if the driver to whom the token was delivered was vigilant to read the inscription of the name of the section on the token the accident would have been avoided but the driver also happened to be negligent. We consider therefore that something more is necessary so that the chances of wrong delivery of token may be reduced. We feel that the expedient to adopt is the use of two colours for tokens, the colour bring the same for every alternate section. The two colours we may adopt are black and red. To give effect to this scheme, tokens in every alternate block instrument will have to be coloured red. Then every class IV staff at a station will know to which train to deliver the token if it is red and to which train to deliver it if it is black and there will be hardly any chance of misdelivery. The driver of a train will also know that he gets red and black tokens alternately and therefore the check by him will also be easier and he is less likely to leave a station with a wrong token. Of course the inscription of the name of the section on the token will have to be retained.

98. The problem that will arise in this connection will be the distinguishing of tokens of branch lines taking off from junction stations. If there are three branch lines taking off from a junction station and all three are worked on token instruments, the tokens of one branch line

can have one white line painted round of the second two white lines, and of the third three white lines, but the two colour, black and red for alternate block sections must be retained even for branch lines.

99. Out of a total of over 5000 stations in India more than half are completely uninterlocked and we feel that to have a completely uninterlocked station is unfair both to the staff and the public. The expense of interlocking such a large number of stations even to the lowest standard is prohibitive and it would therefore take a very long time to execute this work. To overcome the difficulty we suggest that with the funds available for undertaking complete interlocking of a limited number of stations every year we should as a first step, adopt the policy of modified uninterlocking, such as has been tried on the Amritsar-Pathankot section of the Northern Railway and found successful, for all non-interlocked stations so that within a limited period we can secure at least a minimum of safety. And then gradually we can raise the standard of interlocking at all such stations as funds permit or as the exigencies of the situation or the level of traffic demand. Of course the complete interlocking of isolated non-interlocked stations on the main trunk routes must be undertaken and there can be no such half way house for such stations.

100. We have found that there are cases of uninterlocked stations where even the facility of point indicators is not provided for the guidance of staff. We feel that this most elementary facility should under no circumstances be denied.

101. Another matter to which we must draw attention is that about failure of signalling and interlocking and failure of block instruments. These incidents are serious because they necessarily involve resort to abnormal working and naturally abnormal working has a greater liability to create conditions favourable for accidents. We must therefore see that the incidence of such failures is as low as possible. The figures supplied by Railway in this connection are given in Statement 7. This Statement brings out the fact that the incidence of failures. on the Eastern Railway and the heaviest on the Southern Railway. Even after taking the differences in level of traffic into account it is hard to understand why such wide variations should be there. We suggest an investigation of the matter and a concentration of effort on all Railways to bring down the incidence of failures and the time taken in rectifying them. Further we suggest that to focus attention to the matter of failures of signals and block instruments the Railway Board in their Annual Report should publish figures pertaining to them.

102. Lastly we have to observe that on many Railways the system of working is very lax when the interlocking fails at a station. Interlocking having failed the station becomes non-interlocked and we recommend that in such circumstances the badge exchange system must be brought into force so that there may be proper fixation of responsibility on staff and thus the chance of careless working eliminated. We have noted that on some Railways the badge exchange system does not exist even at non-interlocked stations and would strongly recommend its enforcement.

103. Having dealt with the problem of interlocking we now come to another important matter namely the provision of speedometers on engines. At present, with the exception of a very few engines no speedometers are provided and yet trains are booked very near the ceiling permissible speed. To expect the driver of a train to judge the speed of his train to that fineness without any mechanical aid is almost an impossible expectation. Then speed limits of varying orders are imposed at various places and the driver has to make a guess work that he is conforming to the limits prescribed. We feel that this amounts to imposing unreasonable conditions on drivers and it is very essential that at least on engines of all passenger carrying trains speedometers should be provided so that the drivers may have a real chance to conform to the rules they are required to observe.

104. Improper lighting in yards is also a matter for consideration. Many shunting mishaps take place at night due to inadequate lighting of yards. The range of vision of staff thus

gets very limited and mistakes arise. A detailed analysis of lighting fcilities available in yards should be undertaken with a view to determine the minimum standard required at each place and then steps should be taken to ensure that minimum standard. Many accidents would get eliminated if this is done. In this connection we must also point out that it has been observed that lighting of platforms is very often neglected and Railways must take adequate action to improve the position in this respect, as absence of lights on platforms is undesirable not only from the point of view of safety but otherwise too.

105. We have noticed that quite a large number of accidents take place due to drivers running against signals. Dim and drooping signals are quite a menace in this connection and efforts are necessary to eliminate them. The problem of dim signals would get conquered if proper inspections are conducted as suggested by us already. As regards drooping signals we recommend double wiring of the outermost signals of a station as it is these signals which generally have a tendency to droop. If a device less expensive than double wiring is available or can be devised to prevent signals from drooping the same may be adopted.

106. We have come across considerable shortages of essential stores and equipment at stations. Stations have been found without clocks. Trains have been found running without proper side-lights. Stations are without clamps, safety chains and even essential forms. Steps are necessary to overcome this situation. To the subject of supply of stores we will rivert later.

SECTION E : *Elimination of Unreasonable Conditions of Work*

107. One of the most essential requirements if we would have staff working properly and efficiently is that unreasonably long duty hours should not be forced on them. If duty hours are unreasonably long the staff would be subject to fatigue and a man under the influence of fatigue, with the best will in the world will make mistakes and in the matter of train operation these mistakes will mean accidents or likely accidents. This question of fatigue was specially stressed before us by members of the public whom we interviewed and they desired that this aspect should be specially examined.

108. The question of fixing a reasonable standard of duty hours for railway staff was recently examined by the Adjudicator and if the standards fixed by him were actually maintained there could be no hesitation in accepting the situation as satisfactory. The best index to guide us in the matter would be the number of cases in which staff earned over-time for if this number is heavy then the position would be unwholesome and *vice versa.* The figures are indicated in Statement No. 8 attached to this Report. We must frankly admit that these figures have shocked us. They reveal a continuously worsening position in the matter of incidence of overtime and bring out clearly that staff are being subjected to long hours of duty. Perhaps the staff are not very much grumbling about it because overtime brings them a little extra pittance. But the railway user has cause for serious murmer because he has a natural trepidation in trusting his life limb and property to overworked and over-fatigued staff.

109. The situation is crying for a speedy remedy. We must forcefully suggest that very urgent action should be taken by Railways to recruit and train the necessary additional staff required for eliminating the peformance of over-time by staff. Till we do that we cannot but suffer from the uneasy feeling that the bare requirements of safety are not fully provided for.

110. We must here halt to make a passing reference to the system of recruitment of subordinate staff on railways. Subordinate Railway Service Commissions have been set up in the country and the entire recruitment of class III staff for all railways is entrusted to these Commissions. We have had complaints from many railway officers including General Managers that the recruitment through these Commissions is a very tardy process and railways are not able to secure their requirements with promptitude with the result that the shortage of staff has become a perennial affair. We are unable to appreciate this situation when there is growing unemployment in the country and can only conclude that it the facts as reported to us are

correct there must be some mal-adjustment of the machinery for recruitment. We draw attention to this matter so that it may receive consideration as if timely replacements of man-power are not regularly made the railways cannot give an efficient account of themselves.

111. Besides ensuring that staff have not to perform unreasonably long stretches of duty it is also essential that arrangements are available for them to get proper rest in the intervals between duty. For this the minimum requirement is housing. Unfortunately however the position in this respect is far from happy on railways and a considerable proportion of staff concerned with the operation of trains are left to fend for themselves. The scarcity of private houses being what it is, it can well be imagined that most of them are not able to make any proper arrangements for themselves and have to live somehow in a perpetual state of discomfort. The state of tension which is thus engendered among them is bound to effect their working capacity. Then there is the question of relieving staff who are constantly roving from station to station to fill casual gaps resulting from staff going on leave or falling sick or being otherwise away from duty. The Adjudicator some few years ago recommended that Rest Rooms properly equipped should be provided for this category of staff and these Rest Rooms should be so conveniently spaced that it should be possible for relieving staff to get a reasonably proper rest wherever they might be working. Most Railways are however still ill equipped in this direction. The nature of duty for these men is essentially hard and they can hardly secure any homely comforts. If this minimum of amenity is also not made available for them they are forced to live in sub-human conditions and naturally therefore they do not make very good workers. We have to forcefully recommend that efforts for ensuring housing for essential railway staff should be redoubled so that we may be able to improve the standard of efficiency.

112. Another matter which we must reiterate is that of peformance of continuous night duty by staff. The Adjudicator had drawn attention to it and had stated that it should be eliminated. In this connection there is one specific problem which has come to our notice and which we must mention. At certain stations on certain Railways only a station master and an assistant station master are provided each having to perform 12 hours duty. The station master works continuously in the day shift and the assistant station master continuously in the night shift. Except for the weekly rest day, which also sometimes cannot be availed of and has to be covered by the grant of overtime, this assistant station master has always to be up and on duty at night. We feel that this is rather a hard condition of work and solution should be investigated for this situation.

113. A suggestion has been made to us by a Member of Parliament that a continuous tour of duty of 8 hours or 6 hours for train passing staff at busy stations is beyond the limits of human endurance. It was suggested that instead broken shifts should be provided, as for instance a man who has to perform 8 hours of duty should have his duty period split into two parts say from 0 to 4 hours and then from 8 to 12 hours. This it was claimed will improve the efficiency of the man. The idea is an attractive one and we would suggest its further investigation for practical adoption if possible.

SECTION F : *Uprooting of Indiscipline among Staff*

114. Members of the public and railway officers whom we have interviewed have all complained of wide-spread indiscipline among staff which is effecting the standard of work on railways. It has been specially stressed on us that unless the standard of discipline could be raised a state of efficiency cannot appear on railways.

115. As a measure of restoring discipline it has been suggested to us by railway officers that the old practice of giving preference to some of railway employees in the matter of employment on railways should be revived. It has been claimed that this practice played a very great part in curbing any tendency towards indiscipline because the staff realised that if they have a good account of themselves to the Administration they would stand a good chance for securing employment for their sons on the railway. In the present democratic set up, when there is rightly an insistance for equal opportunities for all, we feel hesitant about recommending the adoption of such a step.

116. Reference has also been made by one General Manager to outside interference in the matter of day to day administration which spreads indiscipline among staff. When staff get punished they bring into play the intervention of outsiders with the object of getting the punishment reduced or cancelled. When staff are looking for promotion they again resort to such methods. When such outside interference succeeds a sense of defiance of authority gets bred. We do not know how far this complaint of outside interference is correct but we will recommend that the hands of officers should be strengthened in the matter of resistance of outside interference in the day to day administration so that this possible source of spreading indiscipline may disappear.

117. To our mind, however, the root cause of the trouble is almost a complete lack of contact between officers and staff. We have previously referred to a tremendous increase in office work with officers with the result that they remain most of the timetied to their tables with a serious reduction in outdoor work by them. In consequence staff find very rare opportunities to meet their officers and apprise them of their difficulties. Further, in the plethora of papers with officers their written representations do not get proper attention and suffer from neglect. A feeling, then, starts growing among staff that the only way left to them to focuss attention to their difficulties is to indulge in acts of indiscipline ; apart from this a sense of frustration starts growing among them which is subversive of discipline.

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The comment made is of a sweeping character and is apt to give an erroneous impression. Safety mindedness cannot be materially shaken up due to personal grievances. After all in several cases the safety of the staff themselves is endangered and it would be hard to accept that staff deliberately cause accidents due to non-redressal of their grievances. The Committee themselves have not given any specific cases where accidents are attributable to this cause.

118. We feel that if by a proper rationalisation of the amount of work with officers, a more frequent contact between officers and staff could be arranged a great deal of indiscipline would disappear. When staff would find that their grievances can reach their officers and they make an honest endeavour to redress them as far as possible the tendency for exceeding the bounds of discipline would get a natural curb.

119. When conditions of work are reasonably good, when staff get a sympathetic but firm treatment from their superiors, when the knowledge exists that good work alone and no extraneous circumstances lead to advancement in service, then there is peace and contentment among staff and the cess pools of indiscipline have no chance to contaminate the atmosphere. These conditions which unfortunately do not exist at present on railways have to be created to conquer the battle of indiscipline.

120. Apart from this we have to suggest that the cooperation of the Trade Unions should be sought to restore a sense of discipline among staff. Intelligent relations between the Managements and Trade Unions should be developed. Where Trade Unions bring up any matters which really need redress, redress should be forthcoming with promptitude and when any matters are raised which are born of misunderstanding or misrepresentation of actual facts the true position should be explained in detail so that no cause of suspicion may remain lurking. In return the Trade Unions should be required to see that subversive tendencies do not grow among staff.

121. Due to peculiar circumstances, indiscipline unfortunately is in the air, not only on railways but in all walks of life. We however feel confident that if the measures we have suggested above are taken there would be a great improvement with corresponding healthy effects on the standard of Railway work.

SECTION G.—*Improvement of the psychological back-ground among Staff*

122. We have already stated that one General Manager held the view that the basic reason why railway staff happen to make indefensivble mistakes, has its roots in the psychological make-up of the staff. We now proceed to examine the psychological factors involved in the situation.

123. The Railway Board in their Annual Reports publish statistics of accidents taking place on Indian Railways. We give below a table showing the total number of accidents year by year and the number of derailments, other than derailments on passenger trains, included in the total figures :—

Year	Total No. of accidents	Number of derailments other than those on passenger trains
1937-38	18,910	3,361
1938-39	18,811	3,486
1939-40	20,287	4,725
1940-41	20,285	5,420
1941-42	22,191	6,601
1942-43	22,654	7,447
1943-44	22,605	7,911
1944-45	23,335	8,221
1945-46	24,818	8,902
1946-47	25,617	9,609
1947-48	22,637*	7,959*
1948-49	24,648	8,177
1949-50	22,406	7,821
1950-51	22,415	7,447
1951-52	16,420**	14,819**
1952-53	13,146**	1,223**

*In the year 1947-48 the country was partitioned and the figures for this year are less due to exclusion of portions of railways which went over to Pakistan. The effect of partition is also to be borne in mind in respect of figures of subsequent years.

**From 1951-52 the rules for enumeration of accidents have been revised and accidents of a trivals nature which are not included in the figures were defined with higher limits thus bringing about a considerable reduction in numbers.

These figures reveal a very significant fact that from 1939-40 onward a continuous upward trend in the number of accidents taking place on railways made its appearance. The increase is apparent upto 1946-47, but in 1947-48 the number though actually less than in the previous year does not represent a reduction in the incidence of accidents because in that year the Partition of the Country took place and naturally therefore for the period 15-8-47 to 31-3-48 the number of accidents which occurred on portions of railways which fall in Pakistan territory is excluded. Keeping this basic fact in view it is more or less correct to say that upto 1950-51 the situation showed no signs of improvement. The figures for the years 1951-52 and 1952-53 show a big drop as compared to the previous years but here again no improvement in the incidence of accidents can be inferred because from 1951-52, the Railway Board changed the basis of enumeration of accidents for the purpose of inclusion in their Report, in that, trivial accidents to be omitted from enumeration were defined with higher limits and this action served to reduce the dimensions of the total figure of accidents.

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The Accident Enquiry Committee have stated that from 1939-40 onwards there was a continuous upward trend in the number of accidents taking place on the Indian Railways. The increase in the number of accidents referred to by the committee was during the war years and the period immediately following Partition, when the conditions on the Railways could not be said to have been normal. From 1951-52, however, there has been a progressive decline in the number of accidents, as will be seen from the following figures :—

	1951-52	1952-53	1953-54
Total No. of Accidents on Indian Railways . .	16,498	13,146	11,203
Total No. of train Accidents on Indian Railways .	3,146	2,693	2,257
Total No. of derailments of other than passenger trains on Indian Railways . . .	1,419	1,223	1,051

Moreover, referring to the incidence of accidents, the Committee have not co-related the incidence of accidents with the increase in the passenger miles and train miles. The Reviewing committee have compared the number of accidents per million train mile on Indian Railways during the period 1951-52, 1952-53 and 1953-54, the number of collisions and derailments per million train miles during the same period and have shown that on Indian Railways there has been a progressive decline under these heads. For a correct comparison of the incidence of accidents during different years, it is necessary to correlate these figures with the train milage.

In Para 125 of their report, the Committee observe that minor accidents receive no particular attention on Railways with the result that staff get into careless habits. This 'neglect of minor accidents' is not supported by factual information as obtained from the Railways, as will be seen from the following figures :—

No. of minor accident cases finalised in	Central	Eastern	Northern	North Eastern	Southern	Western
2 months . . .	75	2,083	1,182	711	232	1,149
3 months . . .	11	401	403	448	84	54
4 months . . .	6	341	337	435	32	123
6 months . . .	6	157	316	272	37	15
over 6 months	No cases	24*	131	1,289%	24	4

*These were due to re-examination of findings at higher levels, late receipt of Police reports, etc.

%Reasons—1. Waiting for Police reports.
2. Waiting for acceptance of responsibility and intimation of action taken by the departments concerned.
3. Prolongation of enquiries for securing attendance of staff concerned.

124. The more significant fact however which emerges is that the increase in the number of accidents is almost exclusively contributed by derailments other than those on passenger trains. In other words there has been a progressive increase in the number of comparatively minor accidents born of little carelessnesses.

125. Rightly did a retired Chief Commissioner of Railways, in giving evidence before us, state that of late minor accidents occurring in yards received no particular attention on railways with the result that staff get into careless habits. This neglect of minor accidents started with the impact of War conditions in India when traffic had a great spurt and had to be carried anyhow. Minor accidents occurring in the process were treated as necessary evils and staff hardly got punished for them. The result was that staff also started developing a feeling of indifference towards minor accidents and the number of these accidents started mounting up as the figures quoted above testify.

126. Here then is a psychological factor responsible for accidents. The neglect of minor accidents by the authorities has created a psychological feeling among staff that minor accidents do not matter and thus these minor accidents keep taking place. We have however to remem-

ber that this psychological feeling is a very dangerous one because it breeds a habit of carelessness which grows on staff and converts them into indifferent workers. The carelessness gradually takes root, till it becomes the cause of a major accident.

127. The General Manager of a Railway in issuing a notification to staff about accidents stated among other things, "Here I might mention that the passing of signals at danger has not been treated as a very serious offence in the past. This leniency cannot be shown in the future." We fail to see how a serious matter like the passing of a signal at danger ever started being treated lightly. But by doing so a very deleterious psychological effect on staff must have been produced and that traditional respect for Signals must have been lowered to a great extent. Can we then escape the feeling that for the psychological reasons which result in railway staff committing mistakes the railways themselves created the atmosphere?

RAILWAY BOARD'S OBSERVATION ON PARA. 127.

In the periodical campaigns which the Railways launch to reduce the incidence of accidents the attention of the Railway staff is drawn again and again to the common causes leading to accidents and in an effort to stress on the staff that in future a more serious notice will be taken of lapses on the part of the staff, it is likely that an official might have referred to possible leniency shown in the past in such cases. To quote this as an instance of a lapse on the part of the Railway Administration leading to "a very deleterious psychological effect on staff" does not appear to be justified. It would not be incorrect to say that if every Driver were to be discharged from service for the very first case of passing signals at danger, irrespective of the circumstances under which such a thing happened, the staff would begin to suffer from a fear complex which is likely to have a much more adverse effect on their psychological make up.

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128. Here is another example. All Railways provide a rule that when a train runs through a station the cabinman from the cabin and the station master from the platform must exhibit a green signal to the train. The purpose of the rule is very sound because it assures that the station masters and cabinmen are alert on duty at the time of passage of trains and personally verify that trains are running intact and in a safe and proper manner. When however we asked some General Managers and Chief Operating Superintendents as to what the driver of a train should do if these green signals are not exhibited at a station, they all expressed the view that the driver should take no notice of the Absence of these signals. When views such as those are held at the highest levels, it is but natural that a comparative disrespect for rules grows. Staff begin to feel that certain rules, although enshrined in the Rule Book, can be safely neglected and do actually start disregarding them and this has a very bad psychological effect in so far as the observance of rules is concerned.

129. Operation of trains is a highly delicate and responsible work and on the proper discharge of this work depend the lives of the millions who travel by railway. It is therefore most essential that the rules framed for safe operation should have the highest sanctity attached to them. So long as a rule exists its observance should be demanded under all circumstances. If a rule is considered redundant or unnecessary it can be wiped off the Rule Book but it should not be allowed to suffer from neglect so long as it is retained in the Rule Book.

130. To improve the psychological background among staff we therefore recommend that even the minor accidents on railways should receive proper notice and should result in due punishment to staff. Even the most minor breach of rules should not be tolerated and a tendency towards such breaches should be immediately curbed by deterrent action. The anxiety to move greater and greater volumes of traffic should not weigh with railwaymen to that extreme limit where considerations of safety start getting obscured.

131. We feel that we must here also draw attention to another point which came up in evidence before us. The Chairman of a Subordinate Railway Service Commission expressed the view that the staff had come to feel that their chances of promotion did not depend on merits but on favouritism and wire-pulling. The Chief Operating Superintendent of a Railway stated that in Selection Boards held for selecting men for higher posts, the senior men, though

well up in work were apt to be overlooked due to their not being as smart or as proficient in general knowledge unrelated to railway work as some of the younger men. Some of the Regional Officers mentioned before us that at Selection Boards technical proficiency is not given its due weight. All this if true is likely to create a very unhealthy atmosphere among staff and breed among the majority a psychological reaction of indifference to duty and neglect of work. If a man fails to get proper recognition of his merits and sees others flourish either by the employment of slick methods or the use of dubious means you cannot have a man more upset or frustrated. Such a psychological frustration if it is actually effecting staff is not good from the point of view of prevention of accidents and we would strongly recommend that the system of grant of promotions prevailing on railways should be properly examined and thoroughly overhauled, if necessary, to ensure that merit and merit alone will be the basis for promotions.

CHAPTER V

The Problem of Train Examination.

132. The percentage of over-age stock on railways is at present heavy. The figures furnished by different Railways are as follows :—

Name of Railway	Percentage of overage coaching stock		Percentage of overage goods stock	
Eastern	Ex. B.N.	22·5	Ex. B.N.	11·7
	Ex. E.I.	17	Ex. E.I.	12
Central		24		21
Northern	B.G.	36·02	B.G.	16·97
	M.G.	12·97	M.G.	27·28
	N.G.	41·72	N.G.	49·17
North-Eastern		56·3		30·7
Southern	B.G.	31·4	B.G.	14·5
	M.G.	32·8	M.G.	18·2
	N.G.	70·0		
Western	B.G.	17	B.G.	21
	M.G.	23	M.G.	26
	N.G.	35	N.G.	16

The high percentage of over-age stock should however be no cause for alarm if the standard of maintenance is efficient. As a matter of fact one Member of Parliament who is also a member of a Zonal Railway Users Consultative Committee told us that in China practically the entire rolling stock in use on railways was over-age but that the railways in that country were running very efficiently because the emphasis was placed on maintenance. With the prevailing intensive use of stock and the position regarding overage stock which we are facing, a high standard of maintenance is the key to the situation.

133. The Neutral Control Officer, working in the Indian Railways Conference Association however told us that there had been a serious deterioration in the maintenance of wagons. He stated that working on a uniform schedule of charges the figure of average debit per wagon examined by Neutral Control train examiners shows the following variations:—

Year	Amount of average debit per wagon		
	Rs.	A.	P.
1938-39	1	5	9
1946-47	13	15	9
1951-52	17	0	7
1952-53	23	4	9
January 1954 only	25	12	7

The figures are breath-taking indeed, because they reveal that on the whole our wagons had 20 times more deficiencies in January 1954 as compared to the year 1938-39. It is true that some of these deficiencies might not have any relevancy to the question of these wagons being safe to run but they are certainly a pointer to the unsatisfactory state of maintenance. Coming however to the question of safety, the Neutral Control Officer furnished the following figures of percentages of wagons rejected by Neutral Control train examiners as unfit or unsafe to run :—

Year	*Percentage of wagons rejected as unsafe to run*
1938-39	1·7
1946-47	2·7
1951-52	3·3
1952-53	3·9
January 1954 only	4·3

These figures reveal a bleak picture of progressive deterioration in maintenance standards and drive us to the conclusion that all is not well on our railways in this respect.

134. Our own observations during our tours made us painfully conscious of a widespread neglect in maintenance of wagons. It was not an uncommon sight to see flimsy twisted wire being use in place of split pins, bolts of vital parts of wagons being loose or missing, improperly sized cotters used or resort made to weak locally improvised cotters. Cases of dead buffers or infringement of buffer heights were in evidence. Cases were also noticed of brake-blocks completely missing or extremely slack. Cases were also observed of rivets of axle box cover plates missing for loose. The incidence of extremely slack couplings was very high.

135. To make it further clear how maintenance work is being neglected and train examination is only of a perfunctory nature we quote a specific case. The Headquarters Carriage and Wagon Inspector of the Western Railway examined train No. 1067 Down ex. Ratlam to Kotah at Ratlam on 11th March 1954 (after it had been duly examined by the train examiner and passed fit to run) and noted the following defects existing on it :—

Wagon No.	Owing Railway	Nature of defects
97293	E.R.	4 Truss Bar Split pins defective.
20792	S.R.	2 buffer socket bolts loose.
46980	N.R.	Truss bar nut with syphon pipe-clip as washer.
3436	E.I.	4 Truss Bar Spolit pins defective.
44454	C.R.	Brakes inoperative.
35941	E.R.	One Brake Block worn out and two buffer socket bolts loose.
40401	E.R.	Axle guard sufficiently expanded to get out of the axle box grooves.
5934	C.R.	Brakes inoperative.
28546	N.R.	3 buffer socket bolts loose.
84196	E.I.	2 buffer socket bolts loose.
3486	E.R.	One buffer socket bolt loose.
10403	B.N.	One buffer dead.
15324	E.R.	Axle box canted badly.
02333	S.R.	Axle guard sufficiently expanded to get out of the axle box grooves.

The details are sufficiently expressive and call for no comment on the standard of train examination. This is a stray case picked out by us and is quite representative of the general state of affairs.

136. It is not then surprising that we have come across a number of accidents which are attributable to defective condition of rolling stock. Trains are not properly examined and wagons having serious defects are skipped over and they sometimes lead to trouble.

RAILWAY BOARD OBSERVATION ON PARA 136.

No analysis has been made out by the Committee to support the conclusion that 'serious defects are skipped over'. The Railways have unanimously refuted this and have emphatically stated that safety is never sacrificed for any other consideration.

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137. One reason that has been put forward before us for inadequacy and poor quality of train examination is a rushing through of things in a limited period of time which alone is made available for train examination. One Chief Mechanical Engineer told us that for an intensive examination of trains two hours were required, but in actual working conditions that amount of time was hardly ever allowed and to keep the traffic moving his men were required to rush through with the obvious result that examination of trains was imperfect. Another Chief Mechanical Engineer opined that the allowances of time fixed on his railway for train examination were far from adequate but he could not make the traffic department agree to their liberalisation and added that there were actually cases where due to late formation of trains even that meagre time allowance was not afforded in actual practice. These views freely expressed are clearly indicative of the fact that on railways today train examination is being treated as a matter of sufferance and not as a matter of important necessity in the interests of ensuring safety. The emphasis all the time appears to be on the movement of the maximum possible traffic and if in the process maintenance work suffers, it is felt as if there is no help for it. We find that to suit local conditions in the interests of securing the maximum possible movement the time which different railways allow for train examination varies widely. a position which would be incomprehensible if there was a scientific approach to the problem.

138. The anxiety to achieve an ever increasing movement of traffic is so great that when a train examiner tries to discharge his responsibilities he is made to feel guilty. As a proof of this statement which may appear alarming we quote here an extract from the tour notes of a Divisional Superintendent :—

> " The station master complained that train examiner........damaged 13 vehicles on 8 trains on 9th September 1953, and thus caused a serious detention to all the trains so affected. I do not want to question the train examiner's right and also his discretion to damage vehicles which he considers to be unsafe but on the other hand he should also consider whether these damages are really necessary as the consequences of damaging vehicles on through trains are serious. I would like a check to be kept on this man's work to see whether he is discharging his duties in an efficient manner." Imagine the effect of this expression of displeasure on the individual train examiner concerned. The Divisional Superintendent without any examination of the wagons damaged or without asking for an investigation by the departmental officer concerned expressed the view that the train examiner's action in damaging wagons was reprehensible and gave directions for a special watch being kept on the man's work (evidently to see that he does not damage wagons any more!). Every train examiner on the particular Division is not likely to forget his lesson that 'the consequences of damaging vehicles on through trains are serious' and he is apt to allow wagons to just move on, making a mockery of train examination.

RAILWAY BOARD'S OBSERVATION ON PARA 138.

It would be of interest to note here that the Corruption Committee have noted during their investigations that Train Examiners very often indulge in unwarranted " damage labelling" of wagons in order to extort money from the interested parties. Such cases have also been represented to the railway officials by trading interests in a number of cases and under the circumstances, a Divisional Superintendent who suggests that the activities of a Train Examiner who indulges in excessive "damage labelling" of wagons, have to be watched, is certainly not blame-worthy. The Divisional Superintendent obviously had in mind the normal average incidence of damages on trains, and from the wording of his letter, it is clear that he considered the number of damages above the average. This particular paragraph by the Inquiry Committee is an indication of how two different interpretations can be laid by two different committees on the attitude of staff to a particular problem.

139. One Chief Mechanical Engineer made a very clear statement that wagons could not be detained in large numbers in yards as there was no room in yards to keep them and so they had to be passed any how. A Head Train Examiner whom we interviewed stated that the time allowed for examination of trains and the staff provided for the purpose were inadequate with the result that a proper examination of trains was not possible. Further he stated that the instructions from above were to be liberal in the matter of passing wagons as a consequence train examining staff had to overlook several defects which normally should not be overlooked. Another Head Train Examiner complained of pressure from higher authorities to keep down the rate of damaging and added that they were required to examine trains on a fit to run basis without any definition of the term having been laid down.

140. We hope that we have been able to bring out the salient fact that train examination is a very much neglected part of railway work today. This state of affairs is very disturbing from the point of view of incidence of accidents and needs urgently being put right.

RAILWAY BOARD'S OBSERVATION ON PARA 139 and 140

It is natural for a Train Examiner to state that the time allowed for examination and the staff provided for the purpose were inadequate. It is surprising, however, to see that the Committee seem to have accepted this statement without a further investigation as to its correctness. It was open to the committee to find out what was the time allowed at that particular station and the staff provided for the purpose and to assess whether the time provided and the staff available were adequate for the task entrusted. The Train Examiner and his staff naturally want to take things easy and get more time and more staff. The time and staff provided at all such stations is normally done after a detailed job analysis and for any increase in work, additional staff are normally sanctioned. The committees' statement in para. 140 that "we hope that we have been able to bring out the salient fact that train examination is a very much neglected part of railway work today" is simply a generalised statement and unsupported by facts.

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141. As a first step in this direction we recommend that on all Railways an adequate time allowance for train exmination should not only be fixed but should in actual practice be ensured. We are not overlooking the fact that the primary purpose of railways is to produce the maximum possible transportation and nothing should be allowed to defeat this object. By a judicious increase in the strength of gangs of train examining staff put on to examine a train it should be possible to ensure that within a reasonable time, say one hour, a train would get a thorough examination. In this way both the mobility of yards and the requirements of essential safety would be equally met and we would have moved a step forward in the direction of reduction of accidents.

142. Further we have to suggest that if a train gets a proper and thorough examination at one point during the course of its run, just a general check-up requring little time should do at the rest of the train examining stations through which the train passes. We would therefore recommend that on each railway certain stations, taking their location and their facilities into account, should be declared as Key Train Examination Stations at which all trains must receive a very thorough overhaul and through which no wagon having any defect should be allowed to get through. Then at other train examining stations a very much shorter time for the examination should be fixed where only the most obvious defects

should be looked for. We maintain that if this system is adopted there would be a great improvement in the standard of maintenance because in each trip each wagon will get one thorough check-up instead of so many hurried examinations at so many different places which in most cases are infructuous.

143. The fear will arise that if an intensive train examination is brought into vogue instead of the present superficial one the rate of damaging would increase and the yards would get filled up with sick wagons. It is a genuine fear but there is a solution for it. At present sick lines on railways work only during the day shift and wagon repairs in sick lines are therefore confined only to 8 hours in every 24. We recommend that the sick lines should be worked all the 24 hours of the day by employing three shifts of staff. If this is done the out-turn of sick lines should, other things being equal, increase three-fold. Any increase in the rate of damaging as a result of intensive examination would thus get offset by an increase in the rate of sick line repairs and there would therefore be no accumulation of sick wagons in yards.

RAILWAY BOARD'S OBSERVATION ON PARA 143.

The real difficulty in maintaining a high standard of maintenance of rolling stock and of in expeditiously truning out wagons from the sick line has been the shortage of material. Railways have accepted the principle of multiple shifts in sick lines where suitable working and staff facilities can be provided and when adequate supply of material can always be ensured.

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144. It has been brought to our notice that train examination work is generally hampered at night on account of inadequate lighting. In the previous chapter we have already recommended an improvement in the standard of lighting of yards with a view to facilitate shunting work. When that improvement is taken in hand the question of provision of adequate lighting for train examination work should be kept prominently in view. We would recommed flood lighting of the area where train examination is conducted as also flood lighting of the sick line area.

145. It has also been btought to our notice that train examining staff are provided with ordinary hurricane lanterns for their work at night. It has been claimed that with these lanterns a proper examination of the train is not possible and torches should be supplied for the purpose. Perhaps the flood lighting suggested by us will overcome the difficulty but the matter may be examined by the Railways and if the provision of torches or lanterns with reflectors would improve the standard of work we would have no hesitation in recommending their supply.

146. The point has also been stressed before us that without pit-lines a proper and intensive examination of metre gauge trains is not possible. Chief Mechanical Engineers have lent their support to this view. We would therefore recomemend the provision of pit lines at all stations on the metre gauge where intensive train examination is planned for. Pits should however not be provided on passenger platform lines as that would be a source of danger to passengers.

147. We have found that on certain Railways sick line facilities are far from adequate. We recommend provision of suitable sick line facilities at all train examining stations where they do not already exist with provision of necessary equipment for efficient repairs.

148. During our tours and during our discussions with various officers we were particularly struck by the shortage of essential stores required for repair and maintenance work. Even such common items as split pins, cotters and bolts and nuts appeared to be extremely scarce to get and local imperfect improvisations were being freely resorted to. Canabalisation, that is stripping a part from one wagon for the purpose of providing it on another, was found to be ordinary fair game and Chief Mechanical Engineers admitted that though they realised that this practice was highly undesirable, the position with regard to supply of components was so precarious that they could not afford to prohibit this practice. This is a serious

position to which we must draw attention as without a reasonable supply of components maintenance work cannot but suffer. The stores situation on railways will be dealt with in a subsequent chapter.

149. We would also stress that for the guidance of train examiners a comprehensive list of items which they must check at Key Train Examination stations should be laid down. Similarly the details of check which must be exercised at other Train Examining Stations, where the examination would be less detailed, should also be specifically categorised. The provisions in this respect should be uniform on all railways so that a uniform standard of maintenance may be ensured.

150. At present only at interchange points on railways are Neutral Control train examiners provided. With the regrouping of railways interchange points have become few and far-flung. Therefore with the object of raising the standards of maintenance we recommend that Neutral Control train examiners should be provided at all Key Train Examination Stations. The merit of examination by Neutral Control train examiners is that it is independent and free from the curbing local anxiety to keep things moving at any cost. The standard of maintenance would thus have a chance of being kept up instead of being compromised on grounds of expediency.

151. We have also to draw attention to the fact that quite a large number of accidents take place due to failure of axles which result from cracks existing in them. To bring about an improvement in the position we recommend that at the sick lines at all Key Train Examining Stations Magnaflux test arrangements should be provided. Axle cracks usually start from the surface and even if there was a failure in lubrication a hot axle would develop leading to a surface crack. Magnaflux tests reveal all surface cracks and therefore if these tests are carried out at Key Train Examination Stations there is no reason why there should not be a very considerable reduction in the number of accidents due to axle breakages.

152. Since the question of proper maintenance of stock is of outstanding importance and must continuously receive the closest attention we consider that the abolition of the Mechanical Section Committee of the Indian Railways Conference Association was a regrettable decision. After the abolition the functions which this committee used to discharge were transferred to the Central Standards Office and the Railway Board. The Central Standards Organisation is primarily concerned with designs and not with operational problems on the mechanical side which were the concern of the defunct committee. The deliberations of this committee embodied the carefully considered decisions of very senior and experienced officers. We recommend that in the interests of better attention to maintenance problems this committee should be revived.

153. We now come to deal with the standard of staff provided for train examination work. A retired Chief Commissioner of Railways told us that in the train examining branch the very poorest standard of persons was employed whose capacities were limited. A Regional Mechanical Engineer told us that at present train examiners were selected from amongst fitters and were given a six months' training and the standard of men thus obtained was not satisfactory. A Chief Mechanical Engineer opined that the present standard of train examining staff was not satisfactory and the men did not possess the required degree of skill. Our own observations during our tours were that the men provided for examination of trains were ill-educated, poorly qualified in their work and lacking in zeal and enthusiasm.

154. Proper training of not only train examiners but Class IV staff working under them is an urgent necessity if the standard of train examination has to be improved. In the last Chapter we have laid stress on proper training of all staff connected with the operation of trains but in respect of train examiners and train examining fitters we must specially point out that considering the complicated and highly technical nature of their work, their training should be a prolonged one extending over a period of four or five years so that highly skilled men may become available.

155. One important fact which has been mentioned by practically all Chief Mechanical Engineers concerns the pay scale of train examiners. The work of train examiners, it was stated, is of a highly technical nature and has to be performed under very difficult conditions. The skill expected from these men is of no lower standard than Fitter Chargemen in Loco Sheds and yet their grade was very much lower. The result of this was that men looking for employment in mechanical maintenance posts had the least inclination towards the train examining branch and only those who failed to secure employment in Workshops or Loco Sheds found their way in the train examining branch. In consequence the poorest quality of men got available as train examiners. It was strongly pressed that if the raising of standards of the train examining branch was desired the grade allotted for train examiners should be raised so as to bring it in line with the grade for Fitter Chargemen in Loco Sheds. It was pointed out that on account of the poor grade not only is the quality of new recruit poor but the train examiners in working posts were suffering from a sense of inferiority complex which was in no small degree responsible for the unsatisfactory quality of train examination. The force with which all Chief Mechanical Engineers have referred to this point compels attention. We recommend that a careful investigation of the problem should be made and a suitable modification in the grade of train examiners allowed so that this class of staff may not smart under a sense of injustice and may not suffer from a feeling of frustration.

156. We find that the supervision on train examination work is also not of as satisfactory an order as required. We have shown that the basic material in the train examining branch is poor. Of necessity the subordinate supervisors for the branch have to be picked out from amongst this same material and it is therefore but natural that the standard is low and the quality of subordinate supervision is, in consequence, unsatisfactory.

157. Unfortunately, however, there is neglect in supervision of this branch at the officers' level too. On a Division or a District there is generally one District Mechanical Engineer who is responsible both for Power and Carriage and Wagon work. As it happens the primary concentration of this officer remains focussed to Power work, because he knows that the ultimate judgment about him will be made on the basis of his achievements in the matter of production of the maximum possible transportation. In consequence the Carriage and Wagon work on a Division or District receives secondary attention and suffers from comparative neglect. This is a matter to which attention was also drawn by Messrs. Latham and Issacs in their Report on Derailments, but we observe that this tendency still continues. We have therefore occasion to repeat the recommendation made by them that suitable organisational changes should be made so that it is the chief responsibility of one officer of the Mechanical Department on each District or Division to supervise Carriage and Wagon maintenance and this officer should preferably have no other duties.

158. Before we end this Chapter we feel that we must draw attention to one more point. On some Railways the running maintenances of carriages and wagons is the responsibility of the Chief Operating Superintendent who is normally an officer of the Traffic Department having no mechanical engineering background. The staff provided for running maintenance is also under him. Naturally a Chief Operating Superintendent has the greatest anxiety to show the best possible movement results and if a proper examination of trains thwarts this purpose he is likely to discourage a meticulous train examination. The arrangement therefore to our mind appears to be one which is apt to produce a neglect of maintenance. The need for the most efficient maintenance is very high if we have to keep down the incidence of accidents and we therefore recommend the abolition of this system. Running maintenance and the staff provided for running maintenance should both be a charge of the Chief Mechanical Engineer.

CHAPTER VI

The Problem of Workshop Maintenance

159. Our visit to one Railway Carriage and Wagon Workshop brought us the realisation that though we are living in an age of high scientific development, this Workshop had not harnessed science to practical use. We saw that primitive methods of welding were being employed. The test applied for detection of cracks after welding was so crude that responsible mechanical officers declared it as definitely unsound and one calculated to affect the structure of the metal itself. Although arrangements for normalising of drawbars were available yet the pyrometre for regulating the temperature was lying out of order and the temperature at which normalising was being done was thus a matter of guess work. Only a visual examination of axles was made and even the method of chalking of axles for detection of cracks was resorted to only if the naked eye suspected some flaw. No magnaflux or supersonic apparatus for detection of cracks was available. Springs were also visually examined and only if there was any defect in their camber was a scragging test resorted to. Frankly we were disappointed by what we saw.

160. We also observed that there was quite a lot of carelessness in the quality of work turned out by the workmen in the Shops. Some of the wagons lying ready after periodical overhaul were examined by us and cases were found of infringement of buffer heights, of buffer nuts being loose and split pins missing.

161. The time at our disposal was so limited that we could not visit more than this one Railway Workshop and we are therefore unable to state whether conditions at other Workshops are similar. We can however reasonably suspect that conditions at quite a number of other workshops would be no better. We consider that the highest possible priority should be assigned to the question of improvement of our Railway Workshops. Our analysis has brought out the fact that the proportion of train accidents due to inherent defects in the parts of rolling stock is very heavy and therefore this matter is of the highest importance from the point of view of train accidents as it is only in workshops provided with adequate facilities that a proper detection of inherent defects is possible.

162. Our observations show that a very large number of accidents take place due to the breakage of drawbars of wagons. This particular part therefore needs special attention in workshops and this is a subject which we will deal with in a subsequent chapter.

163. Another fruitful cause of accidents is the breakage of axles. These breakages result out of cracks existing or developing in axles. Yet our enquiries from Railways show that with rare exceptions where magnaflux equipment is available in workshops, for detection of cracks, only the visual method of detection is employed. No wonder then that the number of axle breakages is heavy. This cause of accidents is preventable to a great extent by the employment of proper scientific equipment. We recommend the installation of supersonic crack detectors for the purpose in all Railway Workshops in accordance with the availability of funds.

164. Breakages of springs are also a frequent cause of accidents. Our enquiries however show that in most Railway Workshops only the camber of springs is checked and spring assemblies are not dismantled at the time of periodical overhaul for a thorough examination of spring plates. If the camber is found defective then a scragging test is given but if he camber is found all right then even a scragging test is dispensed with. Load deflection tests for springs are rare in our workshops. In this arrangement defects in springs are likely to be overlooked and they ultimately become causes of accidents.

165. We recommend that in all workshops apart from the regular check of the camber of all springs and buckles, arrangements should be provided that at the time of periodical overhaul all spring assemblies are dismantled and all spring plates thoroughly examined for any cracks. Further, load deflection tests should be carried out as a regular measure at the time of periodical overhaul.

166. We also suggest that the life of springs of rolling stock should be fixed and springs should be replaced as a routine measure on the expiry of this theoretical life. At present spring plates keep constantly wearing but are kept in service without any tolerance limits being laid down for them. Definite tolerance limits for spring plates should be prescribed.

167. Another matter to which we must draw attention is the quality of metal used for the manufacture of various parts of wagons. Due to the difficulty of obtaining supplies there is a tendency to resort to poorer quality of metal than is prescribed in specifications. There is a very great need to effectively curb this tendency in the interests of reducing accidents that result from this cause.

168. From the point of view of maintenance of rolling stock it is of the utmost importance that adequate workshop capacity should be available on each railway so that it should be possible to give a thorough and timely overhaul to all stock. The Chief Mechanical Engineer of the Northern Railway however complained of extreme inadequacy of workshop capacity on his Railway and stated that considerable expansion of this capacity was required before matters could be put on a satisfactory footing. The Chief Mechanical Engineer of the Central Railway similarly complained of insufficient workshop capacity and some other Chief Mechanical Engineers had complaints on the same subject. The seriousness of the position can be guaged from the following figures of percentages of rolling stock overdue periodical overhaul on 31st December 1953:—

Name of Railway	Percentage of coaching stock overdue POH	Percentage of Goods stock overdue POH
Eastern	B.G. 6·1% N.G. 4·35%	B.G. 18% N.G. 4·17%
Central	7%	10%
Northern*	B.G. 15·1% M.G. 3·45% N.G. 5·09%	B.G. 45·4% M.G. 11·1% N.G. 1·02%
North Eastern	19·4%	13·4%
Southern	B.G. 8·62% M.G. 3·20% N.G. 37·9%	B.G. 12·2% M.G. 3·97% N.G. 15·9%
Western	B.G. 6·93% M.G. 11·58% N.G. 11·82%	B.G. 14·95% M.G. 16·01% N.G. 6·60%

*Figures for B.G. are based only on position of *ex*-E.P. Railway.

The above figures bring out graphically how periodical overhaul work is in arrears. The result is obvious that coaches and wagons continue to remain in service even after they become due periodical overhaul in accordance with the schedules prescribed. This fact is in no small degree responsible for the poor state of maintenance of rolling stock that we see all round. The urgency of increasing workshop capacity on railways in accordance with the actual requirements is therefore very great and we recommend that this matter should receive special consideration. Our ultimate plan should be that workshop capacity on each Railway should be extensive enough to provide for periodical overhaul of wagons after every two years instead of three years as at present.

169. We have also referred to the poor quality of workmanship in workshops on railways. There appears to be a tendency on railways to turn out even slipshod work in order to show satisfactory outturn figures. The General Manager of one Railway admitted that the situation was such that if the output of Shops were properly inspected most of the wagons which were turned out by Shops after periodical overhaul would get rejected on account of deficiencies existing on them. Many Railways getting alive to this situation took action about the deputation of a Neutral train examiner to inspect and pass the work turned out by Workshops so that the tendency towards slipshod work may be curbed and we are informed that as a result the standard of outturn of these Shops has improved. Other railways for fear of a decline in Workshop output have resisted this step. We recommend that in the general interests of efficient maintenance the system of providing Neutral train examiners for inspecting and passing the work turned out by Shops should be extended to all Railway Carriage and Wagon Workshops in the country.

170. We must also comment that the work of a Works Manager in a Workshop is of a highly technical and responsible nature. Much depends on the quality of technical skill that this individual possesses. It would therefore be undersirable to post comparatively junior and inexperienced officers against a post of this description. We would recommend that the most suitable and senior officers available should be provided as Works Managers in Railway Workshops.

171. Lastly we recommend the organisation of an Inspection Wing of the Central Standards Office which should function in Workshops, Manufacturing Shops and Loco Sheds. The inspectors attached to this Inspection Wing would be the watch dogs of the Railway Ministry and would by random checks make sure that the quality of production at the time of manufacture and at the time of repair is up to the required specifications. These inspectors should have the powers of immobilising an engine, coach or wagon if they find it in a condition not safe to be put in service until a specified repair or modification is undertaken. If such an organisation is provided it will have a great psychological effect with profound results on the quality of railway equipment.

CHAPTER VII

The Problem of the Drawbar

172. The analysis of train accidents that we have made for the period 1st January 1953 to 10th January 1954 shows that an overwhelming proportion takes place due to the breakage of drawbars of wagons. In these accidents a mere parting of the train occurs generally with no further consequences. But this fact should not make us complacent as the recent accident on the Chunar- Robertsganj branch which was the result of the breakage of a drawbar is enough to show the latent possiblities of accidents of this discription.

173. The highest number of drawbar breakages, almost the half of all railways in India took place on the Eastern Railway. The officers of this Railway explained to us that this was due to long trains of heavy coal loads peculiar to that Railway. When we observed that the number of breakages were disproportionately high on the Dinapore Division of that Railway the argument was put forward that that Division was saturated with traffic and therefore holds-up to trains at signals on that Division were larger in number and the drivers in suddenly starting after the signals were lowered caused breakages of drawbars. We remained rather unconvinced by the argument because we imagine that the Dhanbad and Asansol Divisions of this Railway are no less saturated with traffic and have also got heavy gradient sections on them and yet they do not show equally bad results. The matter is one which we feel needs careful scrutiny to arrive at causes with a view to remedy them and we would suggest expert investigation.

174. As a general cause of breakage or drawbars it has been explained to us that bad metal and bad quality of welding are chiefly responsible. In this connection we consider it is worthwhile quoting in full a letter issued from the Railway Testing & Research Centre, Chittaranjan :—

> "I am enclosing Investigation Report No. 43 on this failure. I find that this particular failure possesses all the undesirable features of a bad forge-weld excepting the quality of steel used in the making of the drawbar. Burning of steel at weld point, overheating of metal, poor penetration and absence of heat treatment are the highlights of this weld failure.
>
> "I was just looking into a number of failure reports of drawbars received in my office during the last few months and find that all classes of steel conceivable have been used in their making. There are drawbars made out of wrought iron, class I, II, III and IV steel and low alloy manganese steel. There does not appear to be any uniformity in regard to the materials used nor is there any standard procedure laid down for making a good weld.
>
> "I notice that the Deputy Chief Controller of Standardisation has stated that on the I.R.C.A. covered B.G. wagons only Class IV steel should be used for drawbar hooks. Rule No. 6 of I.R.C.A. Rules Part III prohibits strictly hand-welding during repairs but welding of shanks under power hammer is acceptable. At the last Carriage & Wagon Standards Committee meeting, the Board have accepted electric flash-butt welding for the same repair with post-heat treatment. There is a general impression that all one needs to do in the case of welding components is to state the right kind of material and also the process by which it should be welded. This of course does not mean that Railways follow the above stipulations in practice. The 'rule of thumb' method of looking at welding of vital components is at the bottom of many of our troubles. There is a common belief that Class II still is good for welding particularly when electric methods are used. In my opinion there is no special sanctity attached to any material or method used. Any material is good for welding provided a good quality of workmanship

in welding is achieved. This can only be possbile by adopting the right technique apart from using the correct material and correct machinery for welding. I have known of welds made in Class I or Class II steel by electric method or even in automatic machines which were of very poor quality and could under no circumstances be relied upon to give the services expected of them. On the other hand with proper welding technique Class IV steel and even low-alloy steels have been successfully welded.

"I do not think that any rational method of testing welds as carried out on railways exists. Enforcing stringent control over welding operations and subsequent testing of welds is to my mind one of the most important steps one could take for preventing future failures. In some railway workshops there are rules that all welds should be heat-treated and they should be tested before issue for use on rolling stock. Such rules are generally not observed and in a rush to give greater out-turn are conveniently ignored.

"There appears to be a large number of non-standard rolling stock on which are fitted drawbars made indifferently in accordance with methods prevalent on some of the railways. I am not sure whether all the railways have laid down strict rules regarding procedure of welding as well as testing welded drawbars. It would therefore be worthwhile going deeper into the matter and finding out the practices prevalent on various railways in regard to standard and non-standard rolling stock and to fill in the lacuna that exists in the instructions regarding their manufacture in addition to what the Carriage & Wagon section of the Central Standards Office has done uptil now and to establish an organisation or system which will enforce them."

This letter brings out clearly what the root cause of the trouble is with regard to the drawbars of wagons. It is no wonder that the incidence of drawbar failures is so heavy.

175. In the first place it appears that any and every sort of material is being used for the manufacture of drawbars. This is a highly unsatisfactory practice and needs being effectivey put down. We understand that the standard specification of material for drawbars is class IV steel and railways must ensure that only this steel is used for the manufacture of drawbars.

176. Then it appears that the technique of welding of drawbars is in most cases defective and very primitive methods are being used. A proper and well-defined technique for welding should be prescribed in all workshops and proper welding equipment should also be provided. In addition the supervision on welding work should be very effective. Lastly we recommend that in view of the highly skilled nature of welding work proper courses of training for welders should be introduced.

177. Annealing of welded drawbars is a matter of great importance. Only some workshops have annealing arrangements while others have no such arrangements. Even where these arrangements are provided the work is quite often neglected or improperly done in the anxiety to show a greater quantity of out-turn of work. We recommend that arrangements for annealing should be provided in all workshops and an organisation set up to ensure annealing of all welds.

178. Arrangements for testing of drawbars exist in only a very few shops and then again a 100% test of drawbars is a rare feature. Taking the serious incidence of drawbar failures into account we recommend that snatch test arrangements for drawbars should be provided in all workshops and it should be definitely ensured that every single dranbar is given a snatch test before it is brought into use on rolling stock.

179. We further suggest the use of friction liners for drawbars between the floor of the wagon and the neck of the drawbar so as to reduce the direct metal to metal friction effect on the neck of the drawbar which by causing heavy wear reduces the strength of the neck of the drawbar.

180. We also recommend that at the time of periodical overhaul each wagon drawbar should be annealed and should be subjected to a snatch test. We are confident that if this were done the incidence of drawbar failures would get greatly minimised.

181. We must also point out that it is usually the neck of the drawbar which breaks. We recommend therefore that train examiners during their routine examinations should particularly examine the neck of the drawbar with the help of a suitable gauge which should be provided. In this way it should be possible to detect in time defective drawbars and thus to reduce the incidence of actual breakages.

182. Some drawbar breakages also take place due to unusually heavy jerks given to trains by drivers. The position in this respect is particularly bad at present on account of a very high percentage of inexperienced drivers. Mechanical Officers and Inspectors should particularly direct their attention to this matter and by constant instruction to drivers eliminate this cause of breakage of drawbars.

183. Neglect in properly tightening up of couplings is another prolific cause of breakages of drawbars. During our tours we noticed that slack couplings on running trains were a common feature and as a result severe strains resulted on drawbars. Railways should properly educate their staff in order to eliminate this carelessness.

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CHAPTER VIII

The Locomotive

184. From our point of view, that is from the point of view of incidence of train accidents, the least mischievous element is the locomotive. The number of train accidents attributable to the behaviour and Condition of engines is very small indeed. The common belief among the uninitiated that the new type of heavy engines are contributing to accidents is far from correct.

185. Although the number of train accidents attributable to locomotives is small, the number of engine failures, with which we are not concerned for the purposes of this Report, is quite substantial. This indicates that considerable improvement in the standard of maintenance of engines is necessary. We are aware of the fact that at the present time there is appreciable shortage of supervisory maintenance staff as also the shortage of engine parts and these facts are responsible for a lowering of standards of maintenance. Vigorous steps are necessary to improve the position in this respect.

186. Regular repair to engines in loco sheds is a matter of very great importance. We find that the organisation and arrangements in this respect differ from Railway to Railway and the system on some Railways leaves scope for improvement. We consider that the system prevailing on the E.P. Section of the Northern Railway is the most efficient and should be adopted in general. This system consists of a joint examination in the Shed by the incoming driver and an examining fitter. The results of this examination are recorded in a form called M.E. 175 which is signed both by the incoming driver and the examining fitter. This form is then filed on a special file for that particular engine so that a running history of the engine is available on the file. The repairs entered on the form are attended to in the Shed and after each job is done the fitter incharge countersigns each entry as an assurance that the repair has been carried out. In addition a form called M. E. 131 is carried by each engine on which the inspecting officials while travelling on the footplate record their remarks and later on when the engine next comes to its home shed these remarks are carried forward on M.E. 175 and placed on the relevant file. The outgoing driver before taking out his engine can see the file for the engine to check up whether the repairs booked have been actually carried out.

187. We might mention in passing two points which have come to our notice and which effect safety of railway staff :—

(*a*) Shunting engines in a very large number of cases work at night without any buffer lights provided on them. This is dangerous for shunting staff working in yards and this defect must be rectified by intensive supervision.

(*b*) On a certain railway we found that a number of engines were deficient of gauge glass protectors. A senior officer of the Mechanical Department of that railway admitted this deficiency which was ascribed to thefts. The danger of the absence of gauge glass protectors need hardly be emphasised. Should a gauge glass burst, live steam would scald the engine crew and result in their being incapacitated while in charge of a running engine. Vigorous steps are necessary to eliminate this dangerous situation.

CHAPTER IX

The Permanent Way

188. The number of train accidents attributable to defects in permanent way is quite noticeable. It is no doubt true that most of these accidents took place at stations in sidings or loop lines. But we cannot overlook the fact that even on the main line recently the Grand Trunk Express while travelling at a speed of ten miles an hour got derailed at Basin Bridge—a shocking calamity which would set anyone thinking whether the needful care is being exercised in the maintenance of railway track.

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The Accident Inquiry Committee have observed that the number of train accidents attributable to defects in permanent way is quite noticeable. Out of a total number of 3,283 accidents during the period reviewed by the Committee, *i.e.*, 1-1-53 to 10-1-54, 78 derailments were attributable to defects in track. As the Committee have observed, most of these accidents took place in sidings. Comparatively speaking, therefore, incidence of accidents due to defects in permanent way is insignificant and does not justify the conclusion that careful attention is not paid to the maintenance of railway track. In fact, as will be seen from Appendix F of the Reviewing Committee's report reproduced below, there has been an appreciable decrease in the accidents on Indian Railways attributable to failure of rails, bridges, culverts and tunnels :—

"*Accidents on Indian Railways attributable to failure of rails, bridges, culverts and tunnels*

1950-51	200
1951-52	164
1952-53	74"

189. The facts furnished to us by Railways are rather depressing. On the Eastern Railway wooden sleepers are overdue renewal over a length of 1,161 miles, steel sleepers over a length of 94 miles and cast iron sleepers over a length of 503 miles. Over the Western Railway sleepers are overdue renewal for a length of 260 miles on the broad guage portion, a length of 850 miles on the metre gauge portion and a length of 120 miles on the narrow gauge. The Northern Railway has claimed that there are no arrears of sleeper renewals and we hope that this is truly so. The North Eastern Railway and the Southern Railway have not furnished any detailed figures but have admitted that renewal of sleepers is very much in arrears. The position on the Central Railway is no better. In the year 1953 the number of unserviceable bridge and crossing sleepers existing in the track as against the number of bridge and crossing sleepers renewed during the same year was as follows :—

Name of Railway	No. of unserviceable bridge and crossing sleepers	No. of bridge and crossing sleepers renewed
Eastern	59,739	25,328
Central	39,216	14,263
Northern	19,630	14,133
North-Eastern	13,170	4,733
Southern	25,724	14,549
Western	44,030	17,626

These figures also show how badly the renewal of important items like bridge and crossing sleepers is in arrears. The number of cases of breakages of rails and fishplates during the year 1953 on different railways was as follows : —

Name of Railway	No. of rail breakages		No. of fishplate breakages	
	On running lines.	In sidings	On running lines	In sidings
Eastern	59	N.A.*	N.A.*	N.A.*
Central	38	93	1,465	1411
Northern	45	6	..	..
North-Eastern	15	2	635	..
Southern	45	6	1,093	23
Western	46	11	4,580	50

*Not Available

It will be observed that the incidence of fishplate breakages on most Railways was alarmingly high. One cannot help coming to the conclusion that the maintenance of track is suffering from neglect.

190. Most Railways have informed us that there is a serious paucity of funds for track renewal programmes. For instance the Eastern Railway has claimed that if renewal work is to be properly attended to an yearly allotment of Rs. 4 crores with an extra yearly allotment of Rs. 50 lakhs for the next three years is necessary; but against that only Rs. 2·7 crores were allotted for the year 1953-54 and Rs. 2·84 crores for the year 1954-55. Considering the importance of timely renewals we cannot too strongly recommend that the allotment of funds to all Railways for renewal work should be liberal so as to allow all arrears to be overtaken within a reasonable space of time.

191. Practically all Railways have complained of a serious shortage of sleepers, particularly wooden sleepers. The bad condition of wooden sleepers is one of the major features of the poor condition of track in various places. The matter therefore needs special investigation to analyse causes which are leading to an insufficient supply of wooden sleepers with a view to determine remedies for improving the position. If for any reason it is impossible to increase the availability of wooden sleepers, a greater supply of steel and cast iron sleepers should be made available so that bad wooden sleepers may be replaced by steel or cast iron sleepers.

192. Very urgent steps are necessary to bring about an improvement in the supply of bridge and crossing sleepers as the figures we have already quoted show that the present position in this respect is rather alarming.

193. In the interests of safety we cannot too strongly stress the immediate importance of paying special attention to track renewal work. One Chief Engineer pointed out that apart from funds, a major difficulty that was being encountered was that of securing material. The present organisation he stated was such that at the beginning of the year when renewal programmes are made out it could not at all be foreseen whether material in accordance with the programme would become available. He added that this was a very serious matter for if in the next three years conditions continued as they were safety would very definitely get jeopardized. We invite special attention to this statement and suggest that apart from allocating adequate funds for renewal work a systematic organisation should be set up to ensure flow of renewal material in accordance with requirements.

194. We find that on some Railways the system of spot renewal of wooden sleepers is in force while others adopt the system of through renewals. Unless the standard of inspection is very high the system of spot renewals is liable to lead to faulty maintenance. At present, when we know that the standard of inspection is poor, we feel that this system should be discarded and through renewal of sleepers should be enforced on all Railways.

195. Practices about inspection of wooden sleepers vary from Railway to Railway and some are definitely unsound. We recommend that a uniform procedure for inspection of wooden sleepers should be enforced on all Railways and the procedure should be such as would ensure a thorough and proper inspection of sleepers instead of a superficial one, such as is not uncommon on some Railways at present.

196. Chief Engineers in most cases have complained of an increase in office work with Permanent Way Inspectors, leading to a deterioration in the frequency of their inspection. This is a very undesirable feature as Permanent Way Inspectors should primarily be meant for field work. Steps should be taken, if necessary, by increasing the clerical assistance provided for them, to relieve them of the burden of clerical work so that intensive inspection of track may become their chief preoccupation.

197. One Permanent Way Inspector whom we interviewed brought to our notice the fact that he and his colleagues were seriously overburdened with the safe custody and accountal of surplus stores for which they are merely the custodians and which they are not allowed to operate uopn except in the case of a grave emergency. He stated that the value of these surplus stores runs into lakhs of rupees and obviously therefore much time and attention had to be paid to them at the expense of normal inspection work. Another Permanent Way Inspector of another Railway also had a similar complaint and stated that very often the stores with an Inspector are as big as with a Depot Stores Keeper and added that there was one case in his knowledge where it took a complete month for a Stock Verifier to check the stores of a Permanent Way Inspector. We feel that it is highly undesirable to waste a Permanent Way Inspector as a Store Keeper. Wherever such a practice exists, it should be immediately discarded, making the Permanent Way Inspector available for his proper work.

198. The conditions which we have observed about the maintenance of permanent way and maintenance of rolling stock impel us to state that at present no increase in the maximum permissible speed of 65 miles per hour over electrified sections and 60 miles per hour over other sections should be contemplated till by constant attention to maintenance efficient standards have been achieved. We would also suggest that more intensive use of Hallade Track Recorder Cars should be made on Railways to detect defects in track than is being done at present.

199. The need for adequate arrangements for refresher courses for Permanent Way Inspectors, Assistant Permanent Way Inspectors and Head Mistries is very real so that these staff may remain up to the mark in their work. At present hardly any Railway possesses arrangements for the purpose. Such arrangements, we recommend, must be organised on all Railways. In this connection we must also point out that quite often Inspectors of Works get promoted as Assistant Engineers and these men have hardly any background of permanent way knowledge. It should be made a general rule that Inspectors of Works before being promoted as Assistant Engineers, must undergo a practical and theoretical course in permanent way work in a training school.

200. Before we close this subject it is necessary to refer to the following points of details :—

(a) Messrs. Latham and Issacs in their Report on Derailments recommended that some form of spring loaded point should be provided instead of a point worked by a weighted tumbler lever or one worked by a lever without spring or weight. our enquiries on railways show that action in this regard has been very tardy and very little progress has been made. We feel that more vigorous action in this connection is called for.

(b) In connection with some accidents Government Inspector of Railways recommended that 1 in 8½ turn-outs should be discarded from passenger lines but our enquiries on railways show that many such turn-outs still exist. Urgent action for removal of these turn-outs is necessary.

(c) Many infringements of standard moving dimensions exist on railways. A programme should be drawn up for removal of these infringements within a limited specified period.

(*d*) The condition of some fouling marks was observed by us to be deplorable. In particular, the white painting of these fouling marks was neglected so that they could not be spotted from a distance. Particular care should be taken about the maintenance of fouling marks.

(*e*) In the course of our study of accidents which took place on railways from 1-1-53 to 10-1-54 we came across two cases of derailments of passenger trains which occurred on the narrow gauge on account of the trains having to travel at slow speed, consequent upon a temporary speed restriction over a sharp curve. Our observation is that the risk of derailment on curved track at speeds considerably lower than the equilibrium speed is ever present on all gauges and this problem needs expert investigation.

(*f*) We draw attention to the fact that the French experts in their Report on the performance and Design of the W.P. Locomotives recommended laying down of the maximum permissible limits for variation in cross levels according to speed. This matter, after 3 years of the recommendation having been made, appears to be still awaiting investigation. As it has a bearing on safety we would urge for speedier attention to the solution of the problem.

CHAPTER X

Level Crossings

201. Quite a large number of collisions between road vehicles and trains took place at level crossings, the number naturally being much greater at unmanned level crossings where neither gates nor gatemen are provided. As accidents of this nature take a considerable toll of life it is necessary to consider the possibilities of improving the situation.

202. We find that it is only at the time that a level crossing is constructed that a consideration is made of the intensity of road and rail traffic at the level crossing to determine its classification. Thereafter conditions may change, the road traffic may develop or dwindle, but it is rare for the classification of the level crossing to be reviewed until an actual accident takes place. This, it will be appreciated is not a very sound state of affairs. We recommend that routine arrangements should be laid on for a census of road and rail traffic at every level crossing, whether manned or unmanned once every three years and on the basis of this census the classification of level crossings should be periodically reviewed. This arrangements, by ensuring a constant watch on level crossings is likely to bring about an improvement in the situation.

203. The lowest class of a manned level crossing has only one gateman provided who has to make himself available all the 24 hours of the day for opening the gates for passage of road traffic. The gates at such level crossings are normally kept closed to road traffic and only when a road vehicle approaches the gateman after making sure that no train is in sight opens that gates for the passage of the road vehicle. It usually happens particularly at night, that the gateman in order to avoid his rest being disturbed, leaves the gates open to road traffic and thus sometimes serious collisions take place. We feel that is is utterly unrealistic to expect of a man, day in and day out, to be always handy whether by day or by night to answer the approach of a road vehicle by opening the level crossing gates. The least that is necessary, if level crossing is to be made available to road traffic both by day and by night is to provide two gatemen at the level crossing, each performing 12 hours duty. The number of such level crossings is very large and if an additional man has to be provided for every such level crossing the expense would be colossal. We therefore suggest that an investigation should be made to determine which of these level crossings can be kept permanently closed to road traffic at night without causing serious public discomfort and at the rest of the level crossings which must in public interest be kept open both by day and by night a minimum of two gatemen should be provided.

204. At a large majority of level crossings there are no signals protecting the level crossing, nor are there any arrangements for warning the gateman about the approach of a train. Reliance is made only on the keen sense of observation of the gateman to get the awareness of an approaching train in time and close the level crossing gates to road traffic. This may be a reasonable arrangement where the gateman is a continuous worker, performing only 8 hours duty, because then we can expect him to be constantly on the alert, but obviously it is a very unsatisfactory arrangement where the gateman is on 12 hours. intermittent duty for then to expect him to be constantly alert would be to deny human nature. Realising this position the General Manager of one Railway has adopted the convention on his line that where a level crossing is not protected by signals and the gates are normally open to road traffic, the gateman should be treated as continuous workers and given only an 8 hours duty to perform. We recommend that in the interests of safety this convention should be adopted on all Railways and with the ultimate object of saving man-power the work of providing signals to protect level crossing gates should proceed apace.

205. In many cases of accidents at unmanned level crossings it was found that a clear view from a reasonably adequate distance was not available either to the driver of a train or to the driver of a road vehicle, because of the luxuriant growth of bushes and trees alongside the road. The minimum that we must ensure at unmanned level crossings is a clear view from a reasonable distance. We suggest that it should be one of the routine duties of Permanent Way Inspectors, Assistant Engineers and Executive Engineers to conduct periodic inspections of unmanned level crossings with the main object of satisfying themselves that a clear view is available at such crossings and if in any case a clear view was not available immediate action should be taken to remedy the defect.

206. As level crossing gates are situated in out of the way places, for removed from the eyes of supervisors it is essential that proper rosters indicating the name of the man who should be on duty at any time shoud be exhibited in all gate lodges and the inspections of level crossings shoud be very regular so that irreguar working which may lead to dangerous consequences may not develop. The following extract from the inspection notes of an officer will bring out the urgent necessity of this step :—

> "I visited the level crossing gate at the .... end of the station at about 16· 30 hours. The gateman who should have been on duty was absent but an off-duty gateman was present who stated that the gateman who should have been present had just gone for some work and would just be returning. According to him the gateman who should have been on duty was Dharmi. Dharmi appeared after about 15 minutes and he claimed that he was on duty from 8 hours and had finished duty at 16 hours. The off-duty gateman who had told me hitherto that it was the time for Dharmi to be on duty (the name of this gateman is Kashi Ram) had claimed so far that he was on duty from 8 to 16 hours and had just finished duty but when Dharmi claimed that he had performed duty from 8 to 16 hours he changed his statement and stated that he had done duty from 0 to 8 hours and begged forgiveness for giving a false statement. Both these gatemen now claimed that Lalta Pershad should be on duty from 16 to 24 hours but that he was not present, I gave orders that Lalta Parshad should be produced before me when he appeared. At about 20.30 hours Lalta Parshad and Kashi Ram accompanied by the Station Master saw me at the station and then I was told that actually Lalta Prashad had performed duty from 0 to 8 hours, Kashi Ram had performed duty from 8 to 16 hours and it was for Dharmi to be on duty from 16 to 24 hours. It also transpired from them that in addition to the rest that the gatemen were being given by the Rest Giver they were performing double duty once a week and were thus having 2 days' off in a week which is irregular. Station Master, of course, knew nothing about the allotment of duties for these gatemen and had no roster for them. It was quite evident that the Station Master was marking them present as a routine measure without exercising any check as to what duty they were performing ...."

207. We have also noticed the absence of gate-lamps at very important level crossing gates which is a serious matter at night. It is necessary to ensure by constant supervision that all essential equipment is always available at level crossing gates.

208. The provision of road signs at an adequate distance at all level crossings is a matter of very great importance particularly at unmanned level crossings. The existing situation in this regard is far from happy and one of the obstacles in the way is that the Railways insist that it is for the road authorities to provide the road signs outside the railway boundary. There is justice in this contention but with the multiplicity of road authorities in the country no progress in the matter is being achieved. We feel that this problem should get special attention and whatever authority is responsible for providing the road-signs must be made to do so and must also ensure their regular maintenance. In addition to the usual road-signs, at the immediate approach to all unmanned level crossing a warning board reading "Stop Dead, Look out for Trains and then proceed" should b e put up on both sides. A device of flashing

lights and simultaneous ringing of bells has been adopted in other countries at level crossings to attract the attention of road traffic when a train is approaching. For the present on account of considerable slow moving road traffic in our country and on account of considerable ignorance prevailing among the people this device cannot be treated as a useful provision. But it may be kept in view for future adoption.

209. Lastly we would recommend that at level crossings where road traffic is intense, over-bridges or under-bridges should be provided not only to facilitate the free passage of road traffic but also to ensure greater safety for it. The conversion in our view would not be unjustified as the recurrings cost on gatemen would be saved.

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CHAPTER XI

The Vacuum Brake

210. While on the broad gauge the provision of vacuum brakes on all rolling stock is universal and all trains whether passenger or goods have this safeguard of safety available such is not the case on the metre and narrow gauge sections of the railway. Goods stock, with rare exceptions is not provided with vacuum brake apparatus on the metre and narrow gauges and goods trains and mixed trains carrying passengers run non-vacuumed on these lines.

211. One General Manager in giving evidence before us stated that it was taking a serious liberty with Passengers to make them travel on non-vacuumed mixed trains. He expressed the view that till it is possible to run mixed trains fully vacuumed, their abolition should be made a statutory obligation. We fully support this view and recommend that the carriage of passengers in non-vacuumed trains should be prohibited by law.

212. General Managers and Chief Mechanical Engineers have expressed the view that the incidence of accidents on the metre gauge can be greatly minimised if all goods stock on the metre gauge is provided with vacuum brake apparatus so that all trains can run fully vacuumed. They have stated that in the interests of safety this essential improvement should be given very high priority. We are aware of the fact that the Railway Board issued orders some years ago to provide vacuum brake apparatus to 20% of the wagons given periodical overhaul every year but we find that the practical results achieved are negligible as the railways complain of non-availability of the necessary material. Taking the importance of the matter into account we feel that the Railway Board should make special arrangements for the equipment and it should be laid as a firm target that within ten years all trains not only on the metre gauge but also on the narrow gauge should run vacuum-braked.

CHAPTER XII

Fires on Trains

213. Some of the most serious fires on trains, involving heavy loss of life and property have been occasioned by acts of criminal carelessness on the part of passengers. We would draw attention to the case of fire near Gaya which we have described in detail in Chapter III. Although the carriage of inflammable articles like petrol as part of luggage is prohibited, passengers either through ignorance or for the sake of petty convenience violate this safety provision. Notices are exhibited in passenger compartments giving warning about the dangers of carelessly throwing lighted cigarette ends inside compartments and yet this elementaty precaution is at times disregarded. We feel that the mere provision of rules in rule books and the mere exhibition of notices will not meet the situation. Railways should undertake propaganda through the medium of the Press and the Screen and by giving graphic accounts of actual cases of fire educate the public to make them more careful.

214. A number of cases of fire on trains took place on account of sparks flying from engines. This would point to the necessity of fitting spark arrestors to all engines, but all Railways do not appear to be alive to this necessity. All new engines are of course fitted with spark arrestors but a majority of the older ones are not so fitted. We understand that for all standard old type engines drawings of spark arrestors have been prepared and sent out to Railways but the difficulty in actual manufacture is that of obtaining much for arrestor plates and to tide over the difficulty research is in progress to replace mesh by expanded metal. Be that as it may, the important point is that the fitting of spark arrrestors to all engines needs being expedited.

215. In this connection it has been brought to our notice that even where spark arrestors are provided the repair workshops generally take out the arrestor plate instead of properly cleaning it and fitting it again. Steps are necessary to be taken to curb this tendency.

216. Fires are also known to have started as a result of electrical short circuits on carriages. . We find that the manner of wiring on some of the old carriages is not satisfactory and leaves much room for improvement. We recommend that steps should be taken to bring up the wiring of all old carriages to modern standards.

217. We find that practices differ on Railways about the provision of fire-extinguishers on trains. Some Railways provide as many as four fire-extinguishers per train while others provide only one. We feel that every passenger train should have a minimum of four fire extinguishers on it so that there may be an effective chance of dealing with an actual outbreak of fire. Every dining car and every postal van should essentially be fitted with a fire-extinguisher.

218. We have observed that on some Railways cases of minor fires on trains which fortunately get controlled before any appreciable damage is done are not given due attention and are not even enquired about and the causes of those fires are described as unknown. We consider that this is a tendency that needs being curbed. It is a matter of good luck that a fire gets controlled in time but it is very necessary that every case of fire, however small, should be properly investigated to determine the cause so that preventive action, where possible, may be taken before the same cause leads to a big conflagration.

RAILWAY BOARD'S OBSERVATION ON PARA. 218

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the cause established and preventive action taken. It is likely that
ght have been no evidence whatever for any definite conclusion being

CHAPTER XIII

Supply of Stores

219. An organisation like the railways needs a constant supply of stores and components if its operational efficiency has to be maintained and yet everywhere we went we were struck by the acute shortage of stores from which railways were suffering. All Controllers of Stores (with a solitary exception) admitted serious shortages of essential stores. All Chief Mechanical Engineers complained of a seriously difficult position of stores which was having profound repercussions on maintenance work. One Chief Mechanical Engineer went so far as to say that he had to deal more with stores matters than technical matters and was being compelled, on account of the prevailing shortage, to use materials which strictly speaking should not be used. The most disturbing fact was that they all appeared to be helpless about the situation.

220. The complaint of all Controllers of Stores was against the Organisation of the Director General of Supplies and Disposals. Stores purchase was required to be done through this Central Organisation and it was contended that in the process very serious delays were entailed and an interval of 18 months between the placement of the indent and the materialisation of actual supply was a common feature. The Organisation, it was stated, had no system of chasing up actual supplies after the orders were placed and therefore the serious delays that were taking place.

221. One Controller of Stores presented us a copy of a memorandum that he had prepared in some other connection on the subject of procurement of stores for Railways. He has stated therein that Railways are required to work out their firm requirements 26 months in advance and even then there is serious delay in actual supply and he has quoted concrete instances. Further he has pointed out that where urgent *ad hoc* demands are placed on the Director General of Supplies and Disposals a delay of six months to a year is common with the result that even urgent requirements cannot be met satisfactorily. He has added that there are several cases in which in placing orders the Director General of Supplies and Disposals takes no account whatsoever of the dates specified by Railways on which actual supplies are needed. Even after thus ignoring the target date for supplies indiscriminate extensions of the supply period are granted to the suppliers. In quoting figures for his own Railway he has stated that as many as 78·5% of the demands on indents were still not supplied at the end of six months after the expiry of the delivery dates and as many as 64% were still outstanding 12 months after the expiry of the delivery dates.

222. The complaint was also made that the Central Purchasing Agency made no effective check about the production capacity of the firms with which orders were placed with the result that in many cases orders got placed with firms who were utterly incapable of complying with them. The natural consequence was non-supply.

223. This is a serious state of affairs about which it is impossible to remain complacent. We have during our tours seen for ourselves how maintenance work is suffering on railways for want of stores. To carry on things somehow local improvisations are being made which are unsatisfactory and which in their way are contributing to accidents. We have also seen that the expedient of cannibalization is being resorted to which is a very undesirable practice to have to fall back upon.

224. Another matter to which one Controller of Stores drew our attention was that as a result of criticisms made by the Shroff Committee stocks exceeding two months, requirements were not being maintained but such limited stocks with the complications of the purchase system, were not adequate and this fact, to a large measure, was responsible for the constant shortages from which railways were suffering. Further, he stated that even though the

magnitude of the imprest stock had thus been reduced the stores organisation had not been suitably geared up to bear the pressure created by the reduction in imprest and the organisation was thus cracking. He also made the point that while the imprest had been reduced in accordance with the recommendations of the Shroff Committee, the other measures suggested by the Committee, namely, the rationalisation of production, the issue of a standard price list and the Railway's own agency of procurement had not been implemented at all. The result of this half-way-house implementation of the Shroff Committee's Report was, he claimed, that the Stores position on Railways had become very invidious.

225. The situation regarding supply of stores on railways is palpably serious and we can do no better than draw pointed attention to it, because in this situation railways cannot function efficiently. The subject is too vast for us to make any concrete recommendations without a special study and we understand that a committee is already functioning to seek ways and means of improving the position. However, we make the following suggestions for consideration :—

(a) Where Railway Workshops are not working for all the three shifts (we have not got information on the point) this should be done so that production of components in the workshops may be increased.

(b) Certain items of stores are a regular feature of consumption on railways and the extent of consumption is also more or less defined. In such cases the Director General of Supplies and Disposals should not wait for indents but should place orders in anticipation of indents, as a time-saving device.

(c) Means should be devised to co-ordinate the position of supplies on different Railways and in different depots of the same Railway to cut out chances of maldistribution. We have received complaints that while an item of stores was in short supply at one place it was plentiful in another place.

(d) Greater freedom for stores purchase should be allowed to Railway Administrations than is the case at present.

CHAPTER XIV

Miscellaneous Suggestions

226. As a measure necessary for reduction in the incidence of accidents one point which strikes us is that at each station a register of accidents should be maintained in which all accidents occurring at the station should be entered. In this register a page should be allotted for each individual staff working at the station and the entry of a particular accident should be made on the page allotted to the staff who is held responsible for the accident. A separate section should be there in the register for entry of accidents for which none of the station staff are responsible. Complete details of the accident should be recorded together with the final punishment awarded. This register will be found very useful as it will indicate clearly to the station master his bad workers and he can then take special steps to have their work watched. It will also have a great psychological effect beacuse an indifferent worker knowing that his work was being specially watched is apt to take to more careful ways. The register will also be useful for inspecting officials as it will present a detailed picture regarding the accident situation at the station.

227. Then at each station a monthly meeting should be held by the station master with his staff to discuss the accidents of the previous month as a whole, to analyse their causes and to seek remedies for avoiding similar accidents in future. At such meetings any practical difficulties of working or any defects in the system of working would be brought out and can then be taken up with higher authorities with a view to their rectification.

228. On each Division or District of a Railway a quarterly bulletin about accidents should be issued in which all the serious accidents occurring on the Division or the District should be reviewed in an absorbing and readable form, bringing out the causes which led to those accidents and exhorting staff to avoid similar mistakes. In these bulletins punishments awarded to staff in accident cases should be prominently featured so that others may realise the fate in store for them if they become careless in their work and cause similar mistakes. These bulletins will, we believe, have a great educative value and will constantly keep staff warned about the necessity of avoiding accidents at all costs.

229. The Headquarters office of each railway should similarly issue a quarterly bulletin covering all serious accidents occurring on all Indian Railways during the previous quarter.

230. There is at present no arrangement apparently on Railways to make a detailed over-all appreciation of the situation regarding accidents. Each case of accident is dealt with individually and in this arrangement the advantage of seeing the wood as a whole is not secured. Much useful results can be obtained by making an over-all appreciation and considerable preventive action can thus be directed. We suggest that on each Railway a system of making an over-all monthly appreciation of accidents should be introduced and if for the purpose extra officers are needed, the expense is worth incurring.

231. On a number of Railways passenger carriages with outward opening doors are provided and such carriages are large in number. These coaches are a source of danger to passengers and railway staff. We have been told that it is generally not possible to convert outward opening doors into inward opening ones without hevy structural alterations. As these coaches are comparatively old, it would serve little or no purpose to carry out the conversion. In these circumstances the use of these coaches cannot be banned entirely, but we recommend that they should not be used on fast trains.

232. Lastly we must draw attention to the subject of the Safety Controlling Authority on Railways. The present position is anomalous. A Government Inspector of Railways is,

under the existing arrangements, required to satisfy himself about the 'safe-worthiness' of any installation on railways and then to make recommendations to the Railway Board who are the ultimate authority for sanctioning the use of the new installation for public traffic. At least one Government Inspector of Railways was able to bring to our notice an instance in which he did not consider a particular new installation sound from the safety point of view and asked the Railway concerned to suitably alter it. But the railway concerned then approached the Railway Board who sanctioned the use of the installation for public traffic on the grounds that the Chief Engineer of the Railway considered it quite safe. The organisation which bears the burden of running the railways is likely to be tempted to such compromises over the issue of safety and since we already have the organization of the Inspectorate for Railways we feel that it would be in public interest to make the Inspectorate the ultimate Safety Controlling Authority. If the Railway Board feel aggrieved about any decision of a Government Inspector of Railways on the issue of public use of any new installation they could take up the matter with the Ministry of Communications who after considering the advice of the Chief Government Inspector of Railways would give the final decision which should be binding. In this arrangement all notifications sanctioning the public use of new installations on Railways should issue under the authority of the Ministry of Communications and not under the authority of the Railway Board.

RAILWAY BOARD'S OBSERVATION ON PARA 232

This subject has been dealt with at length in the Reviewing Committee's Report, para 23, and onwards.

CHAPTER XV

Accident Enquiries

233. The Railway Board have prescribed a time schedule for the institution of enquiries about accident cases. Our observation is that in the case of serious accidents this time schedule is generally observed. But in so far as comparatively minor accidents are concerned there is comparative neglect and we have come across cases in which enquiries were very seriously delayed. A delayed enquiry loses much of its value as by the process of time evidence gets lost and the staff concerned cannot clearly recollect the details of events relevant to the accident. Remembering that a minor accident is the father of a major accident we feel that this situation is unsatisfactory and needs correction. Whatever the magnitude of an accident, if an enquiry about it is necessary it must be started and completed promptly.

234. One Chief Operating Superintendent admitted that there were a number of accident cases on his Railway in which responsibility of staff could not be fixed due to the delay in holding joint enquiries, particularly joint enquiries by inspectors. As a cause of delay he stated that the number of Loco Inspectors on his Railway was very much less than the number of Traffic Inspectors and hence delays in holding enquiries occurred. Whatever the reasons, they needed being effectively checked but the promptness of enquiries must be ensured.

235. Another aspect to which attention must also be drawn is the quality of enquiries held. On one Railway we found that in a number of accidents which were attributed to defects in track the findings of Enquiry Committees were that no staff was responsible. This appeared rather surprising to us and when we asked the Chief Engineer of the Railway he admitted that in many cases the finding that none was responsible was not correct and that he was taking up the matter. But for our mission of enquiry perhaps the Chief Engineer would not have become aware of this situation, as the accidents concerned were minor and would not receive the attention of the Chief Engineer.

236. On another Railway we questioned the Chief Engineer about two accidents which occurred, according to the information supplied to us, due to defects in track. He not being *au fait* with those cases at the time wrote to us subsequently about them stating that they had been dealt with by his Deputy in his absence and giving, among other things, the following comments :—

> "Although it is true that sleeper supplies were in arrears and the condition of sleepers in both the sections on which the accidents occurred was far from perfect, it is not considered that this was a contributory cause of the derailment in either case as gauge was practically correct, the greatest error found being only one-eighth of an inch, and even this was not an irregular error but was found uniformly throughout the length concerned.
>
> "Since the interview I have studied the cases and am not altogether satisfied with the action that has been taken and intend to take the matter up further with the Regional Engineer.
>
> "Although there appears to be little doubt that in both cases an error in cross levels was the primary cause of the accident, there are other causes which doubtless contributed to the derailments. In one case there was a speed restriction of 10 miles per hour and had this been strictly observed, I feel fairly sure that the accident would not have taken place. It may be noted that in this particular case the only serious fault in cross levels was found to be 64 feet away from the point of

> first derailment and if the train was travelling at 10 miles per hour it is most unlikely that that particular fault was the actual cause of the derailment.
>
> "In the other case the derailment took place at the end of a long down-hill run of 1 in 150 and it is quite likely that the real cause of the derailment was the sudden application of vacuum brakes in a train that was only partly vacuumed."

In March 1954, the serious doubts still lurking in the mind of the Chief Engineer about accidents which occurred in September 1953, obviously bring out the fact that enquiries about these accidents must have been held perfunctorily in an effort to close the cases somehow.

237. The instances which we have quoted show that greater attention is necessary to be paid to the issue of the quality of enquries about accident cases than is apparently being paid at present. The officers who finally accept enquiry reports need being more critical so that each accident may get truly and properly analysed and its cause established beyond question.

238. Some evidence has come up before us that officers enquiring into accident cases were generally prompted to be on the defensive all the time to shield their own department and there was not that atmosphere of impartiality at these enquries which is conducive to the determination of the kernel of truth. We are unable to say how far this tendency exists but if it does it needs being very effectively curbed.

239. Perhaps it is due to the suspicion referred to in the preceding paragraph that all members of the public whom we interviewed voiced the demand that at enquiries about accident cases members of the public should be invited to be present so that they may watch that enquiry is properly conducted. It would be quite impracticable to give effect to this demand with reference to all accident enquiries, but to create public confidence we recommend that where enquries are arranged about accidents in which there have been either deaths or injuries representatives of the public may be associated as observers. The most suitable representative of the public for this purpose appears to us to be the member of the Regional Railway Users' Consultative Committee belonging to the area in which the accident has taken place.

240. Public demand was also insistent that in all cases in which a Government Inspector of Railways holds an enquiry the Report of the enquiry together with the recommendations made by the enquiring officer should be promptly published for the information of the public. We support this demand with the proviso that only those recommendations should be published which are finally accepted by the Government and in any case where the prosecution of railway staff is likely to take place the report should not be published until the criminal proceedings close. Such a practice already exists in the United Kingdom and the adoption of this practice in this country will create a fund of goodwill for the Railways.

CHAPTER XVI

Financial Implications

241. The financial implications of the suggestions and recommendations made by us in the course of this Report are not inconsiderable. They call for the outlay of extensive expenditure. But we cannot overlook the fact that the issue involved is of profound public importance for which the where-withal has to be found.

242. We were heartened by the fact that all members of the public who gave evidence before us (and they included some members of Parliament) were unanimously of the view that the primary amenity which the Railways must provide was that of safety of travel. They, in no uncertain terms, stated that they could do easily without other comparatively minor amenities like imposing station buildings, paving of platforms, bath-rooms and latrines on platforms and many other such conveniences for another ten years but they could not afford to wait for any length of time for the amenity of greater safety on Railways. Let all expenditure on these minor amenities, they suggested, be completely stopped and the money thus conserved be directed to safety works. In other words, they pointed out that first things must come first and the rest can take their turn. If this very feasible suggestion emanating from the public were adopted there should be no serious financial handicap with regard to implementation of our recommendations.

243. We ourselves have been at considerable pains not to make any recommendations whose financial burden may be too severe in the light of existing resources. For instance we have not recommended the adoption of highly scientific devices like Automatic Train Control because we know that they are very costly and the level of traffic in our country does not really justify them yet. We would, however, recommend that to cater for the future investigations should be taken in hand on the subject of Automatic Train Control to evolve as inexpensive methods as possible to provide this highly important safety device to ensure immunity against accidents which arise from disregard of signals.

CHAPTER XVII

On the Implementation of Recommendations made in Individual Accident cases

244. We have surveyed the entire ground covered by our Terms of Reference with the exception of examining the question of implementation of recommendations made by enquiring officers who enquired into individual accident cases which occurred during the period 1st January 1953 to 10th January 1954. We propose to complete this remaining task in this Chapter.

245. Appendix B furnishes a complete summary of the recommendations made in different accident cases and the remarks of the Railway concerned in respect of their implementation. We have nothing to say about cases in which the Administrations claim that the recommendations have been implemented but we deal below with cases in which we consider that insufficient attention has been paid to the question of implementation of recommendations.

246. On 7th March 1953 between Parbhani and Pingli on the Central Railway while 442 UP Goods was on the run a wagon on it got derailed and this wagon running in a derailed condition led to the derailment of 11 more wagons. The Enquiry Committee which was set up in this case recommended that the batch of wagons which had attained an age of 53 years as against the normal life of 30 years should be taken out of service. After more than a year the Administration still has the matter under consideration.

247. On 24th March 1953 between Tinarni and Charkhera stations on the Central Railway while F30 Up Goods train was passing the engine ran into a dip lorry belonging to Sub Permanent Way Inspector, Harda resulting in the derailment of the engine. The Enquiry Committee in this case recommended amendment of Subsidiary Rule 224-2 (b)(i) so as to provide for further protection to trollies. More than a year has passed but the railway still has the matter under examination.

248. On 3rd April 1953 at Poona on the Central Railway while up Ghorpuri-Poona Shuttle Goods was being admitted into the station the driver over-shot the derailing switch resulting in derailment of the engine. The Enquiry Committee in this case recommended provision of stop boards to avoid similar accidents. After this long lapse of time the matter is still a subject of inter-departmental correspondence and no action has been taken.

249. On 12th April 1953 at Badanpur on the Central Railway while Down Maihar Pilot was being admitted into the station the driver lost control of the train and the engine entered the sand hump and got derailed. The Enquiry Committee in this case recommended provision of train examining staff at Jukehi, the amendment of certain subsidiary Rules and a prohibition against men not having a specified minimum of experience being promoted as drivers. The railway is still busy examining these recommendations.

250. On 12th May 1953 between Sumaoli and Jora Alapur on the Central Railway 661 Down Mixed Train ran into a bullock cart at a level crossing. The Enquiry Committee in this case observed that there were a number of important level crossings on the Ex-Scindia State Railway where important roads including the Trunk Road cut across the track without the provision of either gates or even chains. They suggested that as there was a large increase in the road traffic the provision of level crossing gates at the most important level crossings should be investigated so as to increase the safety factor. The matter is still the subject of investigation without any conclusion having been reached.

251. On 30th May 1953 between Mankhurd and Chembur stations on the Central Railway M. 50 Up Local train ran into a motor lorry at a manned level crossing. The Government Inspector, who enquired into this case, recommended, among other things, that gatelodges should be provided at level crossings so that the gateman could reside in the gatelodge, thereby obviating the necessity of his having to leave the gate for essential requirements. This is an important recommendation to ensure safety but the Railway have only stated that it will be progressively implemented as funds permit without indicating if any progress at all had been achieved.

252. On 1st August 1953 between Ambari and Kinwat stations on the Central Railway while 805 Down Goods train was on the run there was a derailment on it. The Enquiry Committee in this case recommended that engines utilised to work trains on Mudkhed-Adilabad and Parbhani-Purli-Vaijnath Sections should be equipped with speedometers. The matter has not proceeded further beyond the examination stage.

253. On 8th August 1953 at Nizamabad while 573 Down Passenger was leaving the station there was a derailment on it due to the train travelling on facing points which had previously been burst. The Enquiry Committee recommended provision of starting signals at the station to avoid similar accidents, but the matter is still in the stage of consideration.

254. Attention is specially invited to items 17 and 21 included in Appendix B. The least that we must say is that the view adopted by the Railway about the recommendations made by the Government Inspector of Railways in these cases reveals a sense of complacency which circumstances would not appear to justify.

255. On 30th October 1953 at Bari station on the Central Railway while 672 Up Mixed train was entering the loop line, its engine derailed near the facing points. The Enquiry Committee in this case recommended imposition of a speed restriction of 5 miles per hour over turnouts of the *ex*-Dholpur State Railway till the turn-outs were standardised. The Administration's remarks that action was being taken appear to be rather cryptic. Perhaps the speed restriction has not yet been imposed;

256. On 22nd January 1953 at C Class level crossing between Seethanagram and Bobbili on the Eastern Railway No. 104 Up Passenger knocked down a double bullockcart, breaking the cart into pieces and killing the cartman and two bullocks. The Enquiry Committee in this case recommended the conversion of this unmanned level crossing into a double manned one as the traffic at the level crossing justified such conversion. Even after more than a full year the Administration have not stated the action they propose taking about this recommendation.

257. On 30th January 1953 between Theruvali and Bissamonttack on the Eastern Railway No. 277 Down Goods ran into the push trolley of Sub Permanent Way Inspector Theruvali as a result of which the trolley was smashed into pieces. The Enquiry Committee in this case recommended that form E. D 9-15 should be made compulsory for sections having sharp curves but even at this distant date the Railway does not say whether the recommendation has been implemented.

258. On 17th February 1953 between Parlakimedi and Ganguvada on the Eastern Railway coaching brake van No. 7 on 132 Dn. Mixed while on the run got derailed of its leading pair of wheels. The Enquiry Committee in this case recommended close examination of the construction of this particular type of brake van, especially its bearing spring assembly as accidents with coaching brake vans had been frequent on the Section. With more than a year having elapsed the examination is still underway.

259. On 2nd June 1953 at Vizagapatam Port Yard on the Eastern Railway train engine of 529 Up Goods derailed by its leading bissel wheels due to choking of a crossover by ash and debris blown down by shunting engines. The Enquiry Committee in this case recommended that to prevent points and crossings from such obstructions due to constant fire cleaning a baffle

wall should be constructed alongside the ashpit. All that the Railway say is that the baffle wall had not been constructed.

260. On 15th June 1953 between Amghata and Krishnagar Road stations on the Eastern Railway side collision took place between 2SN Down passenger and a motor lorry. The Enquiry Committee in this case recommended provision of fencing along the railway track on the Section or some indication in the shape of white line or pillars at short distances to caution against infringement of standard dimensions. The matter, however, is still reposing in the stage of inter-departmental correspondence.

261. On 12th May 1953 between Toposi and Barabani stations on the Eastern Railway a motor car collided with the brake van of Toposi Pilot at an unmanned level crossing. The Enquiry Committee in this case recommended provision of gatemen at the level crossing, but even after this long period of time there is no progress and the matter is still under correspondence with Civil authorities.

262. On 1st April 1953 between Wazirganj and Tilaiya on the Eastern Railway a collision occurred between 281 Up and 282 Dn. work trains due to 281 Up being despatched from Tilaiya without line clear. The Enquiry Committee in this case recommended provision of token system of working on this branch line instead of paper line clear working. The Railway do not say what they have done in the matter and evidently the paper line clear system of working is still in vogue.

263. We have quoted so far only cases of two out of the six railways and the list has become tortuously long. On the remaining four railways also similar cases in which attention paid to recommendations made by Committees, who enquired into accidents, has been scant are equally plentiful, but we refrain from quoting them for reasons of brevity. Anyone interested in the details can easily pick them out from Appendix 'B'.

264. The point, however, is clear that sufficient importance is not being attached by Railways to recommendations made by experts who enquire into accident cases and it is not unoften that they suffer from neglect. Apart from the cases which we have detailed in full above we have found that there are certain recommendations which Government Inspectors of Railways have made more than once since many years past but they are still awaiting implementation. For instance, provision of lock and block on double line sections has been pressed for by them but we are still far from the universal adoption of the system. Again on busy single line sections where paper line clear system is in vogue they have been recommending the provision of block instruments which would have prevented some unfortunate collisions but the progress in this direction is very meagre. Further they have been suggesting the introduction of scragging tests for springs to reduce the incidence of derailments which are caused by breakage of springs but such tests are still not prevalent in many of our workshops.

265. The purpose of an enquiry about an accident is mainly to learn lessons for the future so that we could take precautionary measures to avoid similar accidents. If recommendations made by enquiry committees are allowed to fester in the labyrinthine limbo of red tape the very purpose of holding an enquiry is defeated and the Railways cannot escape the charge of complacency We hear to often the complacent pronouncement that it is individual human failure which leads to serious accidents on railways, but we plead for the recognition of the fact that humans are in the last resort human, liable to err sometimes. Where a human error is liable to affect the life and limbs of hundreds it is for us to see that all reasonable mechanical aids are provided to check the men working on railways from the path of error. The provision of such mechanical aids, the necessity for which is brought out by actual accidents and to which our attention is specially drawn by recommendations made as a result of expert enquiries, should not be deferred lightly as thereby we jeopardise public interest.

266. We would therefore plead for a greater respect being paid to recommendations made by officers who enquire into accident cases. These recommendations into the framing of which goes considerable thought should be viewed with sympathy and with a breadth of vision and

should not be cast aside without very strong justification. Grounds of expediency should not be allowed to come in their way.

267. To ensure a better standard in the matter of implementation of recommendations made by accident enquiry committees we suggest that it should be made obligatory on railways to come to a decision within one month of the recommendation having been made whether the recommendation would be given effect to or not and where it is decided not to give effect to it detailed reasons justifying the rejection should be recorded. Where a recommendation is accepted it should be made obligatory on railways to lay down a specific time limit within which its implementation must be complete. The Railway Board should specially watch the matter by calling up periodic statements and by critically examining them to ensure that no Railway is lagging behind in the matter of implementation of safety recommendations.

268. The provision of funds for safety works should be given high priority and implementation of accepted recommendations should not be allowed to unduly suffer for non-provision of funds. Any investigations that are undertaken in connection with the implementation of recommendations should be pushed through expeditiously and all unnecessary delays avoided. In the past such has not always been the case as for instance, the use of fusees was recommended some years ago, but the matter is still in the investigation stage though in other countries the usefulness is already an accepted fact.

CHAPTER XVIII

Summary of Conclusions and Observations

269. The observations that we have made in the various Chapters of this Report and the several conclusions that we have arrived at are, for convenience of reference, summarised below. The number given in brackets against each item is the relevant paragraph of the Report :—

1. From 1-1-53 to 10-1-54 there were 3282 train accidents on Indian Government Railways of which 224 were collisions including collisions at level crossings, 81 were averted collisions, 1132 derailments and 1456 partings of trains (14).

2. The intensity of train accidents on Eastern, North Eastern and Northern Railways is comparably equal and so is the intensity on the other three Railways comparably equal, but half of the former Railways. The greater liability to accidents on the former three Railways is almost exclusively due to the greater incidence of failure of station and train staff to follow the rules and the larger number of cases of flaw in metal or design of rolling stock (14).

3. Train accidents are mainly contributed by failure of station and train staff to follow the rules and by flaw in metal or design of rolling stock. A majority of accidents attributed to flaw in metal of rolling stock is really due either to faulty workmanship in Workshops or neglect in running maintenance (15).

4. In train accidents during the period under review 148 persons lost their lives and 674 were injured (16).

5. In train accidents during the period under review the loss of railway property amounted to Rs. 29,96,403 (17).

6. The number of train accidents due to negligence or ignorance of outsiders is a very small proportion of the whole (20).

7. Adequate school facilities should be provided for the proper training of Class IV traffic staff concerned with the operation of trains as such facilities do not exist at present (30).

8. Training Schools for Class IV traffic staff should be opened at every large station with a definite area of the Railway allotted to each school (31).

9. The selection of Instructors for Training Schools for Class IV traffic staff should be very judiciously made. (32).

10. Adequate arrangements should exist for ensuring that every traffic staff connected with the running of trains receives a Refresher Course, once every five years. (33).

11. Investigation should be made to see that the most intensive use of existing Training Schools is being made (34).

12. On all Railways a comprehensive plan of facilities required for a proper initial training and periodic revision courses for all categories of staff of the Mechanical Department concerned with the operation of trains should be prepared and should be given top priority for execution. (38).

13. The desirability of introducing training and Refresher Course facilities for Permanen Way Staff should be considered on all Railways. (40).

14. Mobile school arrangements for giving Refresher Courses to staff are recommended (42).

15. A Committee of Administrative Officers of different Railways should be set up to draw up courses of training to ensure uniformity on all Railways (43).

16. Suitable retired employees should be engaged as Instructors for training schools by offering them sufficiently attractive terms (44).

17. The standard of supervision at all levels is poor and in particular about the aspect of safety of operation there appears to be practically no inspection (51).

18. Everyone is so involved in his files and so pre-occupied with routine meetings that inspections are rare and perfunctory (52).

19. The Railway Board's decision in abolishing inspections by Government Inspector of Railways was improper and regrettable (53).

20. Inspections of Railways by Government Inspectors of Railways should not only be restored but should be made more itensive than they were before their complete abolition (54).

21. If for intensive inspection of Railways by Government Inspectors of Railways an increase in the cadre of the Inspectorate becomes necessary the increase should ge allowed (55).

22. Extreme inadequacy and infructousness of outdoor inspections by officers has brought down the standard of work at stations to a very low ebb (58).

23. An immediate Departmental Committee should be set up to thoroughly analyse the routine office work with a view to weed out what is unnecessary (59).

24. This Departmental Committee should also make an assessment of the number of officers required for satisfactory discharge of work after the unnecessary portion is cut out and if on the basis of this assessment additional officers are required they must be provided (59).

25. After it is ensured that adequate time would be available with all officers for outdoor supervision no hard and fast time-table of inspections should be laid down for them but it should be impressed on them that the Administration would expect the state of highest efficiency in their jurisdiction and if they fail in this matter very serious notice of their failure should be taken (61).

26. A hard and fast time table of inspections should be laid down for Inspectors (62).

27. Night and surpise inspections must be conducted by officers and Inspectors (63).

28. A method is suggested for ensuring that the quality of inpsections is upto the mark (64).

29. An inspection report about an inspection should be written out immediately and should be submitted to higher authorities within a specified number of days (65).

30. Follow-up action on inspection reports must be prompt and must not be neglected under any circumstances (66).

31. Inspections must not merely be fault finding but should also be educative for staff (67).

32. Inspections, among other things, must also include in their ambit the aspect of safety of operation (68).

33. Inspection Registers should be maintained at all stations in which inspecting officials should note down the fundamental results of their inspection apart from the drawing up of detailed inspection notes (69).

34. Punishments in accident cases are in many instances inadequate and though Railways appear to be cognisant of this fact they have not been able to remedy the situation (71).

35. Discipline and Appeal Rules have become cumbersome and to avoid the heavy work involved in awarding any major punishment officers have begun to shirk imposition of heavy penalties and resort to comparatively minor punishments even though they might be incommensurate to the gravity of the offence (72).

36. A modification of the Payment of Wages Act at least in so far as punishments arising out of accident cases are concerned is suggested (74).

37. The procedure for award of punishments of reduction in grade and removal from service should be simplified (75).

38. If officers are suffering from Trade Union phobia in the matter of award of heavy punishments where they are deserved railways should take steps to restore confidence among officers (76).

39. Suggestion is made that if the same staff is held responsible in accident cases four times he should be removed from service after following the prescribed formalities (77).

40. No modification in the procedure for holding enquiries should be made (78).

41. On all Railways the General and Subsidiary Rule Book should be printed in all the Regional languages current in the area of each Railway and a copy thereof should be supplied to all staff who have to observe these rules in the language the staff can read (79).

42. On each Railway separate brochures for different categories of staff should be got out which should contain all the General and Subsidiary Rules applicable to that category in addition to all the other rules which that particular category of staff have to observe (80).

43. Since there is no immediate prospect about a decision regarding the Revised General Rules we suggest that each Regrouped Railway should take immediate steps to unify the Subsidiary Rules on the basis of the existing General Rules (82).

44. A uniform standard for Station Working Rules should be prescribed on all Railways, and these rules should fully describe the normal method of reception and despatch of trains and in addition should provide detailed directions for abnormal working (85).

45. A routine revision of the Station Working Rules once every 5 years should be prescribed (86).

46. Every Assistant Traffic Officer and every District Traffic Officer on a District or a Division must monthly inspect one station reviewing the Station Working Rules and all other safety provisions at the station (87).

47. The Railway Board should prescribe uniform rules for working of traffic when there is total failure of communications or when on a double line section one line of track becomes unavailable for traffic. (88).

48. Care should be taken to see that all rules prescribed are practicable. (89).

49. On sections of heavy traffic a high standard of interlocking should be provided and on sections on which traffic is light some sort of rudimentary interlocking must be made available (90).

50. On the main trunk routes no station should be left uninterlocked and the standard of interlocking at all stations on a section should be the same. Further at large stations track-circuiting should be provided (92).

51. Complete lock and block should be planned for all double lines sections (93).

52. Where on single line sections traffic is in excess of three trains each way token instruments must be provided and where token instruments are installed the last stops signal should be interlocked with the token instrument (94).

53. When paper line clear system is in force, a Train Signal Register should also be maintained (95).

54. No section of the double line should be worked on paper line clear system (96).

55. We suggest colouring of tokens to avoid mis-delivery of token at the time of crossing of trains (97).

56. We suggest the adoption of modified uninterlocking as a first step towards safety with provision for gradual raising of standards of interlocking (99).

57. At uninterlocked stations the facility of point indicators should not be denied (100).

58. We notice wide variations on Railways in the incidence of signal and interlocking failures and block instrument failures and in the time taken for rectification of these failures. We suggest investigation of the reasons for this variation and the bringing to bear of efforts to reduce incidene of failures and the time taken in rectifying them. We also recommend that figures of failures of signals and block instruments should be published in Railway Board's Annual Reports (101).

59. When interlocking fails at a station the badge exchange system must be enforced (102).

60. On some railways the badge exchange system does not exist even at uninterlocked stations. This must be introduced (102).

61. Speedometers should be provided on all engines working trains carrying passengers. (103).

62. Improvement of standard of lighting in yards is suggested. Ensuring of proper lighting of platforms is also suggested (104).

63. Double-wiring of outermost signals at stations on any other anti-droop device is suggested to prevent drooping of signals (105).

64. The incidence of long hours on duty is found on Railways (108).

65. Urgent action should be taken by Railways to recruit and train additional staff require for eliminating the performance of overtime by staff (109).

66. Attention is drawn to the reported delays in recruitment of staff through Subordinate Railway Service Commissions (110).

67. Efforts for ensuring housing for essential railway staff should be redoubled (111).

68. Solution should be investigated for avoiding continuous night duty by Assistant Station Masters (112).

69. We suggest investigation of the idea of broken shifts for train passing staff (113).

70. The hands of officers should be strengthened in the matter of resistance of outside interference in the day-to-day administration (116).

71. Greater contact between officers and staff can reduce the tendency towards indiscipline (118).

72. Reasonably good conditions of work, sympathetic but firm treatment by officers and promotions only on considerations of merit are steps which can conquer indiscipline (119).

73. Co-operation of Trade Unions should be sought to fight indiscipline (120).

74. From 1939-40 there has been a progressive increase in the number of accidents and the increase is almost exclusively due to an increase in the number of minor accidents (123 and 124).

75. Insufficient notice is taken by Railways of minor accidents (125).

76. The neglect of minor accidents by Railway Authorities has created a psychological feeling among staff that minor accidents do not matter (126).

77. So long as a rule is provided for in the Rule Book its disregard should not be countenanced (129).

78. Even minor accidents and minor breaches of rules should receive proper notice (130).

79. The system of promotions prevailing on Railways should be properly examined to ensure that merit alone will be the basis of promotions (131).

80. The percentage of overage stock on railways is heavy but this should be no cause for alarm if maintenance standards are satisfactory (132).

81. Figures furnished by Neutral Control Officer reveal a great deterioration in maintenance standards (133).

82. On Railways today train examination is being treated as a matter of sufference and not as a matter of importance necessity and adequate time for train examination is not being allowed (137).

83. On all Railways an adequate time allowance for train examination should not only be fixed but should, in actual practice, be ensured, Judicious increase in the strength of train examining gangs should be made so that a train would get intensive examination within a reasonable time (141).

84. On each Railway certain stations, taking their location and facilities into account should be declared as Key Train Examination stations at which all trains must receive a very thorough overhaul. At other train examining stations a very much shorter time for the examination should be fixed where only the most obvious defects should be looked for (142).

85. We recommend working of sick lines for all the 24 hours of the day (143).

86. We recommend flood lighting of the area of a yard in which train examination is done as also flood lighting of the sick line area (144).

87. If supply of torches or lanterns with reflectors to train examining staff instead of ordinary hurricane lanterns will facilitate train examination work the supply of torches or lanterns with reflectors should be made (145).

88. On the metre gauge pit lines should be provided at stations where intensive train examination is done (146).

89. On certain Railways sick line facilities are inadequate and where this is so suitable facilities with adequate equipment should be provided (147).

90. Attention is drawn to serious shortage of stores for maintenance work (148).

91. List of items which Train Examiners should check at Key Train Examination Stations and at other Train Examination stations should be laid down and the list should be uniform for all railways (149).

92. Neutral Train Examiners should be provided at all key Train Examination stations (150).

93. Magnaflux test equipment should be provided in the sick lines at all Key Train Examination stations (151).

94. We suggest that the Mechanical Section Committee of the Indian Railways Conference Association should be revived (152).

95. Attention is drawn to poor quality of men provided for train examination work (153).

96. Stress is laid on training of Train Examiners and Train Examining Fitters and their period of training should be a prolonged one (154).

97. We suggest examination of scales of pay of Train Examiners (155).

98. Suitable organisational changes should be made so as to prescribe that it will be the chief responsibility of one officer of the Mechanical Department on each District or Division to supervise carriage and wagon maintenance and this officer should preferably have no other duties (157).

99. The system where the running maintenance is under the Chief Operating Superintendent should be abolished (158).

100. The highest possible priority should be assigned to the question of improvement of Railway Wokshops by providing modern equipment in them (161).

101. Supersonic crack detectors should be provided in all Railway workshops (163).

102. At the time of periodical overhaul all spring assemblies should be dismantled and all spring plates thoroughly examined for cracks. Load deflection tests should be carried out as a regular masure at the time of periodical overhaul (165).

103. The life of springs should be fixed and definite tolerance limits for spring plates should be prescribed (166).

104. Checks should be introduced to see that in the manufacture of parts poorer quality of metal than prescribed in specifications should not be used (167).

105. The question of increasing workshop capacity on Railways where it is at present inadequate should receive urgent consideration, the ultimate object being to see that periodical overhaul for wagons can be arranged once every 2 years (168).

106. The system of providing Neutral Train Examiners for inspecting and passing the work turned out by shops should be extended to all Railway carriage and wagon workshops (169).

107. The most efficient and senior officers available should be provided as Works Managers in Railway workshops (170).

108. We suggest the setting up of an Inspection Wing of the Central Standards Office (171).

109. Draw-bar breakage accounts for a large proportion of train accidents (172).

110. The causes of heavy incidents of draw-bar failures on the Dinapore Division of the Eastern Railway need investigation (173).

111. Railways must ensure that only class IV steel is used for the manufacture of draw-bars (175).

112. A proper and well-defined technique for welding should be prescribed in all workshops and proper welding equipment should also be provided. Supervision on welding work should be effective and courses of training for welders should be introduced (176).

113. Arrangements for annealing should be provided in all workshops and an organisation should be set up to ensure annealing of all welds (177).

114. Snatch test arrangements for draw-bars should be provided in all workshops and it should be ensured that every single draw-bar is given a snatch test before it is brought into use on rolling stock (178).

115. Friction liners should be used between the floor of the Wagon and the neck of its draw-bar (179).

116. At the time of periodic overhaul each wagon draw-bar should be annealed and given a snatch test (180).

117. Train Examiners during their routine examination should particuarly examine the neck of the draw-bar with the help of a suitable gauge which should be provided (181).

118. Mechanical officers and inspectors should watch the working of drivers and suitably instruct them so that breakages of draw-bars consequent upon heavy jerks caused by drivers may be reduced (182).

119. Railways should properly educate their staff in order to eliminate the incidence of slack couplings (183).

120. The number of accidents atributable to the behaviour and condition of engines is very small (184).

121. Vigorous steps are necessary to improve the standard of maintenance of engines (185).

122. We commend universal adoption of ex.-E.P. Railway system of watching running repairs on engines (186).

123. Buffer lights on shunting engines must be ensured at night (187).

124. The deficiency of gauge glass protectors on engines must be removed (187).

125. The number of train accidents attributable to defects in permanent way is appreciable (188).

126. Facts are given to show that maintenance of track is being neglected (189).

127. Allotment of funds to Railways for track renewal work should be liberal (190).

128. Investigation should be made of reasons for inadequate availability of wooden sleepers and if it is found impossible to improve the supply position, greater availability of steel and cast iron sleepers should be arranged (191).

129. Urgent steps are needed to improve the supply of bridge and crossing sleepers (192).

130. A systematic organisation should be set up to ensure flow of track renewal material in accordance with requirements (193).

131. The system of spot renewal of sleepers should be discarded (194).

132. A uniform procedure for inspection of wooden sleepers should be enforced on all Railways and the procedure should be such as would ensure a thorough inspection of sleepers (195).

133. Steps should be taken, if necessary, by increasing clerical assistance to relieve Permanent Way Inspectors of clerical work (196).

134. Permanent Way Inspectors should be relieved of the burden of surplus stores (197).

135. We caution against the raising of maximum permissible speed and recommend more intensive use of Hallade Track Recorder cars (198).

136. Arrangements for Refresher Courses for Permanent Way Inspectors, A.P.W.Is. and Head Mistries should be provided (199).

137. Before an Inspector of Works is promoted as an Assistant Engineer he should undergo a practical and theoretical course in Permanent Way work in a Training School (199).

138. Vigorous action is called for, for the elimination of points worked by tumbler levers (200).

139. Urgent action is necessary for elimination of 1 in 8 1/2 turn-outs (200).

140. A programme should be drawn up for removal of infringements of standard moving dimensions to be completed within a specified period (200).

141. Particular care should be taken about the maintenance of fouling marks (200).

142. The risk of derailments on curved track at speeds considerably lower than the equilibrium speed is ever present and we suggest expert investigation of the problem (200).

143. The investigation in connection with the laying down of maximum permissible limits for variation in cross levels according to speed should be expedited (200).

144. Routine arrangements should be laid on for a census of road and rail traffic at every level crossing whether manned or unmanned once every 3 years and on the basis of this census the classification of level crossings should be reviewed (202).

145. An investigation should be made as to which of the C class level crossings can be kept permanently closed to road traffic at night without causing serious public discomfort and at the rest of the C class level crossings a minimum of two gatemen each performing 12 hours duty should be provided (203).

146. Where level crossings are not protected by signals the gatemen should be treated as continuous workers (204).

147. It should be one of the routine duties of Permanent Way Inspectors and Assistant Engineers and Executive Engineers to conduct periodic inspections of unmanned level crossings with the object of satisfying themselves that a clear view is available at such crossings (205).

148. Proper rosters indicating the name of the man who should be on duty at any time should be exhibited in all gate lodges and inspections of level crossings should be regularly held (206).

149. It should be ensured that all essential equipment is always available at level crossing gate (207).

150. Arrangements for provision of road signs and their proper maintenance should be made at all level crossings. An additional warning board reading "Stop Dead, Look out for trains and then proceed" should be provided at the immediate approach to all unmanned level crossings. The device of flashing lights and simultaneous ringing of bells at level crossings should be kept in view for future adoption (208).

151. At level crossings where road traffic is intense over-bridges or under-bridges should be provided (209).

152. The carriage of passengers in non-vacuumed trains should be prohibited by law (211)

153. It should be laid as a firm target that within 10 years all trains on the metre gauge. and narrow gauge should run vacuumed (212).

154. Railways should undertake propaganda through the medium of the Press and the screen about the hazards of fires on trains through careless acts of passengers (213).

155. Fitting of spark arrestors to all engines needs being expedited (214).

156. Steps should be taken to bring up the wiring on all old carriages to modern standards (216).

157. Every passenger train should have four fire extinguishers on it (217).

158. It is necessary that every case of fire, howsoever small, should be properly investigated (218).

159. The position regarding supply of stores on Railways is most unsatisfactory (219).

160. Where Railway workshops are not working for all the three shifts they should do so to increase the manufacture of components (225).

161. For items of stores which are a regular feature of consumption on Railways the Director General of Supplies and Disposals should not wait for indents but should place orders in anticipation of indents (225).

162. Means should be devised to coordinate the position of supplies on different Railways and in different depots of the same Railway to cut out chances of maldistribution (225).

163. Greater freedom of stores purchase should be allowed to Railway Administrations (225).

164. At each station an accident register should be maintained (226).

165. At each station a monthly meeting should be held by the Station Master with his staff to discuss the accidents of the previous month (227).

166. On each Division or District a quarterly bulletin about accidents should be issued (228).

167. The Headquarters office of each Railway should similarly issue a bulletin of accidents (229).

168. On each Railway a system of making an overall monthly appreciation of accidents should be introduced and if for the purpose extra officers are required they should be provided (230).

169. The use of carriages with outward opening doors should not be allowed on fast trains (231).

170. The Government Inspectorate of Railways should be the ultimate Safety Controlling Authority on Railways (232).

171. Whatever the magnitude of an accident, if an enquiry about it is necessary, it should be started and completed promptly (238).

172. Greater attention is necessary to be paid to the issue of the quality of enquiries about accident cases than is being paid at present and the officers who finally accept enquiry reports need being more critical (237).

173. If there is any tendency on the part of officers who enquire into accident cases to be on the defensive to shield their own department the tendency needs being effectively curbed (238).

174. When enquiries are arranged about accidents in which there have been deaths or injuries representatives of the public may be associated as observers (239).

175. Reports of enquiries by Government Inspectors of Railways together with the recommendations as accepted by the Government should be promptly published except in cases where prosecution of railway staff is apprehended when reports should be published after close of prosecution (240).

176. Reference is made to the public suggestion that all expenditure on passenger amenities should be stopped and money thus found for safety works on Railways (242).

177. Adoption of costly safety devices is not recommended yet (243).

178. There are many cases on all Railways in which attention paid to recommendations made by enquiry committees about individual accidents is scant (263).

179. We refer to some recommendations repeatedly made by Government Inspectors of Railways but not effectively implemented (264).

180. The provision of Mechanical aids to check staff from making mistakes should not be deferred lightly (265).

181. Greater respect should be given to recommendations made by experts who held enquiries into accident cases (266).

182. We make certain suggestions to ensure better implementation of recommendations made by accident enquiry committees (267).

183. The implementation of accepted recommendations about improving safety should not be made to suffer for non-provision of funds and any investigations undertaken in connection with the implementation of recommendations should be pushed through expeditiously. (268).

270. With the observations, recommendations and conclusions as summarised above we bring this Report to a close. We have freely criticised the Railways and pointed to defects in their working because thereby alone we could fulfil the purpose of the Enquiry which was entrusted to us. The present was an occasion of taking stock not of achievements but of failures—those grim failures which occasion tragic happenings and bring about accidents.

271. Our Report will be incomplete without placing on record our high appreciation of the unremitting service rendered by the Sercretary—Mr. T. N. Dar. He has worked unsparingly throughout, often under adverse conditions of discomfort. Without his ability and industry it would not have been possible to finalise our Report within the target date. We also acknowledge our indebtedness to the Staff attached to the Committee all of whom worked hard under great pressure, to our entire satisfaction. Their help has been ungrudging.

Sd. Shah Nawaz Khan.
Chairman.
Sd. P. N. Mubayi.
Sd. N. S. Sen.
Members.

Sd. T. N. Dar,
Secretary.
NEW DELHI,
The 30th April, 1954.

MINUTES OF DISSENT BY MR. N. S. SEN

Para 115 *of the Report.*—As regards some preference being given to sons of Railway employees for recruitment to class III category, I have no hesitation in recommending that a certain proportion of the vacancies for situations involving operating work should be reserved for them as in the case of Scheduled caste and Anglo-Indian candidates. I am fully alive to the arguments against the proposal as it contravenes the principle of equality for all under our Democratic Constitution. However, Railway operating work is of a technical nature and sons of railway employees are brought up in an environment which initially equips them with a good background for this type of work. Apart from this, sons of railway employees have a family tradition of loyalty to the Administration and devotion to duty. Moreover, sons of railway employees are less likely to resort to obstructive tactics than outsiders. This view was advocated by General Managers and Heads of Departments with whom the subject was discussed.

Para 128 *of the Report.*—Referring to the rule under which Station Masters and Cabinmen of wayside stations are required to hand signal run through trains past their stations, I am not in favour of saddling the driver of a run through train with the responsibility of keeping a special look-out for such signals and reporting omissions. The attention of the driver of a run-through train should be concentrated on signals and any thing that might distract his attention from signals must be avoided. The responsibility in the matter may devolve on the guard or Officers and Inspectors travelling in run-through trains. Chief Operating Superintendents of Railways unanimously agreed with what has been stated above.

COMMENTS BY Mr. N. S. SEN

Paras 53 *and* 54 *of the Report.*—In regard to reversion to the former arrangement of periodical inspection of Railway working by the Government Inspectorate of Railways, I refrain from commentng on this subject as I am not fully aware of the reasons in detail which led to the adoption of the current procedure which, I believe, is based on the practice in force on the British Railways. Under the present arrangement Government Inspectors are entitled to carry out inspections on their own for which all facilities are placed at their disposal by the Railways and as such the incidence of inspections should be of a more intensified nature, since the Government Inspectors' Inspections are in addition to the periodic inspections by the Railway Administration. It may, however, be argued in favour of the proposal that Government Inspectors by the nature of their duties are *ipso facto* more experienced in inspection work than Railway officers who have multifiarious other duties to perform.

(Sd.)N. S. Sen.

STATEMENT I

Analysis of Train Accident Cases from 1-1-53 to 10-1-54

Nature of accident	No. on Central Railway	No. on Eastern Railway	No. on Northern Railway	No. on North-Eastern Rly.	No. on Southern Rly.	No. on Western Rly.	Total
1. Collisions between trains between two stations . .	2	2	..	4	1	..	9
2. Collisions at stations involving a train	8	15	5	9	4	2	43
3. Side collisions involving a train	4	8	7	7	5	4	35
4. Averted collisions . .	14	18	15	8	20	6	81

	Nature of accident	No. on Central Railway	No. on Eastern Railway	No. on Northern Railway	No. on North-Eastern Rly.	No. on Southern Railway	No. on Western Railway	Total
5.	Trains parting and subsequent collision between parted portions of the train . . .	..	..	1	2	4	2	9
6.	Collisions between Trollies and Trains . . .	4	9	1	2	1	2	19
7.	Collisions between a train and a road vehicle at a manned level crossing . . .	5	3	5	5	6	3	27
8.	Collisions between a train and a road vehicle at an unmanned level crossing . . .	14	10	7	12	12	13	68
9.	Collisions between a train and a road vehicle at a place which is not a level crossing .	..	5	5	3	..	1	14
10.	Vehicles running away from stations	..	1	..	..	4	..	5
11.	Trains leaving a station without line clear resulting in no consequences . . .	9	6	5	..	8	..	28
12.	Trains leaving a station with a wrong authority to proceed resulting in no consequences	3	..	..	..	2	12	17
13.	Drivers running against signals resulting in no consequences or mere bursting of points	29	6	16	2	12	18	83
14.	Wrong reception or despatch of trains at stations due to incorrect setting of points resulting in no consequences	1	11	5	8	1	5	31
15.	Derailments due to incorrect setting of points or non-locking of points or mismanipulation of points . .	33	81	59	56	35	5	269
16.	Derailments over traps and derailing switches or dashing of trains against dead-end buffers or sand humps . .	31	22	17	..	18	1	89
17.	Derailments, caused by disregard of signals . . .	4	7	9	5	2	..	27
18.	Derailments due to defects in rolling stock and engines for which maintenance staff are responsible . . .	16	25	15	21	13	13	103
19.	Derailments due to defects in rolling stock or engines caused by flaw in metal or design .	33	39	27	71	25	34	229
20.	Derailments due to rough or improper shunting .	3	10	22	6	15	1	57
21.	Derailments due to defects in track	6	21	7	29	10	5	78
22.	Derailments due to obstruction on track . . .	1	20	13	7	7	1	49

	Nature of accident	No. on Central Railway	No. on Eastern Railway	No. on Northern Railway	No. on North Eastern Railway	No. on Southern Railway	No. on Western Railway	Total
23.	Derailments due to running over cattle	7	..	8	6	1	2	24
24.	Derailments due to uneven loading	2	8	1	5	9	..	25
25.	Derailments due to a combination of causes or other miscellaneous causes . . .	15	64	27	40	32	4	182
26.	Bursting of points during shunting of trains or during reception or despatch of trains	..	2	..	..	13	..	15
27.	Driver losing token on the run	1	..	..	..	1	2	4
28.	Partings of trains due to flaw in metal resulting in no further consequences . . .	66	440	230	86	69	24	915
29.	Partings of trains due to faulty maintenance resulting in no further consequences . .	..	46	13	31	14	7	111
30.	Partings of trains due to loose couplings resulting in no further consequences . .	..	5	2	32	5	5	49
31.	Partings of trains due to heavy jerks resulting in no further consequences . . .	1	131	75	3	13	3	226
32.	Partings of trains described as accidental and resulting in no further consequences . .	11	4	2	..	1	..	18
33.	Derailments or partings of trains for which responsibility could not be established or has yet to be established . .	13	19	14	50	23	18	137
34.	Fires caused on trains by sparks from engines . .	..	17	13	..	6	8	44
35.	Fires on trains due to electrical causes	..	17	4	3	2	3	29
36.	Fires on trains due to cigarette ends etc.	..	5	4	2	1	4	16
37.	Fires caused on trains by friction and other miscellaneous causes	1	19	4	1	2	..	27
38.	Fires whose cause remains undetermined . . .	..	..	..	..	..	30	30
39.	Fires on trains whose cause is still under investigation .	..	..	..	..	..	2	2
40.	Sabotage cases on trains .	1	1	..	1	..	3	6
41.	Attempted sabotage . .	..	27	..	3	15	7	52
	TOTAL	338	1124	638	520	412	250	3282

STATEMENT 2

Statement of Train Mileage on different Railways during 1952-53

Name of Railway	Total Train Mileage during 1952-53
Central	32272000
Eastern	42367000
Northern	30022000
North-Eastern	20408000
Southern	34681000
Western	22970000

STATEMENT 3

Statement showing the number of Train Accidents during the period 1-1-53 to 10-1-54 per million train miles according to main contributing factor

Main contributing factors	No. on Central Rly. per million train miles	No. on Eastern Rly per million train miles	No. on Northern Rly. per million train miles	No. on North Eastern Rly. per million train miles	No. on Southern Rly. per million train miles	No. on Western Rly. per million train miles
1. Accidents due to failure of station and train staff to follow the rules . .	4·8	8·6	8·6	8·0	5·3	3·1
2. Accidents due to failure of maintenance staff in the proper maintenance of rolling stock or engines .	0·5	1·6	0·9	2·6	0·8	0·9
3. Accidents due to failure of permanent way staff in proper maintenance of track	0·2	0·5	0·2	1·4	0·3	0·2
4. Accidents attributed to flaw in metal or design of rolling stock and engines . .	3·1	11·3	8·5	7·7	2·7	2·5
5. Accidents caused by negligence of outsiders . .	0·7	0·5	0·8	1·1	0·4	0·9
6. Accidents caused by interference by outsiders .	0·03	0·6	0·0	0·2	0·5	0·4
7. Accidents due to miscellaneous causes . .	0·5	2·7	1·6	2·1	1·2	0·7
8 Accidents whose cause has either not been determined or has yet to be determined . . .	0·7	0·5	0·5	2·5	0·7	2·2
TOTAL . .	10·53	26·3	21·1	25·6	11·9	10·9

STATEMENT 4

Analysis of Train Accidents for the period 1-1-53 to 10-1-54 classified by Main Contributing factors.

Main contributing factors	No. on Central Railway	No. on Eastern Railway	No. on Northern Railway	No. on North-Eastern Railway	No. on Southern Railway	No. on Western Railway	Total	Percentage of total No. of accidents
1. Accidents due to failure of station and train staff to follow the rules . . .	155	365	258	161	186	72	1197	36·5
2. Accidents due to failure of maintenance staff in the proper maintenance of rolling stock and engines . .	16	71	28	52	27	20	214	6·6
3. Accidents due to failure of permanent way staff in proper maintenance of track . . .	6	21	7	29	10	5	78	2·4
4. Accidents contributed by flaw in metal or design of rolling stock and engines .	99	479	257	157	94	58	1144	34·8
5. Accidents caused by negligence of out siders	21	20	24	23	14	20	122	3·7
6. Accidents caused by interference by outsiders	1	28	..	4	15	10	58	1·8
7. Accidents due to miscellaneous causes .	16	117	48	44	43	15	283	8·6
8. Accidents whose cause has either not been determined or has yet to be determined .	24	23	16	50	23	50	186	5·6
TOTAL . .	338	1124	638	520	412	250	3282	100·0

STATEMENT 5

Statement showing the number of persons killed and injured in different types of train accidents during the period 1-1-53 to 10-1-54

Nature of accident	Central Railway Killed :	injured	Eastern Railway Killed :	injured	Northern Railway Killed :	injured	North-Eastern Rly Killed :	injured	Southern Railway Killed :	injured	Western Railway Killed :	injured	All Railway Killed :	injured
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Collisions between trains between two stations .	..	47	..	83	..	..	9	54	67	69	..	..	76	253
2. Collisions at stations involving a train	..	7	2	20	..	2	2	9	..	39	..	2	4	8
3. Side-collisions involving a train	..	1	..	3	..	..	..	2	..	..	1	..	1	6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
4. Averted collisions	..	..	..	2	..	..	1	..	..	..	..	..	1	2
5. Trains parting and subsequent collision between parted portions of the train	..	..	..	..	..	..	..	..	..	9	..	..	..	9
6. Collisions between trollies and trains	..	..	..	1	..	..	..	..	1	..	..	..	1	1
7. Collisions between a train and a road vehicle at a manned level crossing	1	1	..	..	..	4	..	3	..	6	..	..	1	14
8. Collisions between a train and a road vehicle at an unmanned level crossing	6	5	1	18	4	12	3	9	3	11	1	22	18	77
9. Collisions between a train and a road vehicle at a place which is not a level crossing	..	..	2	6	..	2	..	1	..	..	..	..	2	9
10. Vehicles running away from stations	..	..	..	..	..	..	..	..	..	4	..	..	..	4
11. Trains leaving a station without line clear resulting in no consequences	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12. Trains leaving a station with a wrong authority to proceed resulting in no consequences	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13. Drivers running against signals resulting in no consequences or mere bursting of points	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14. Wrong reception or despatch of trains at stations due to incorrect setting of points resulting in no consequences	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15. Derailments due to incorrect setting of points or non-looking of points or mismanipulation of points	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16. Derailments over traps and derailing switches or dashing of trains against dead-end buffers or sand humps	4	..	8	..	2	..	..	..	..	..	..	..	..	14
17 Derailments caused by disregard of signals	..	..	..	..	2	5	..	4	..	..	..	..	2	9
18. Derailments due to defects in rolling stock and engines for which maintenance staff are responsible	..	3	..	..	..	16	..	..	..	..	2	8	2	27
19. Derailments due to defects in rolling stock or engines caused by flaw in metal or design	..	1	..	4	..	..	..	5	..	..	..	1	..	11
20. Derailments due to rough or improper shunting	2	5	..	..	..	..	..	..	..	..	..	..	2	5
21. Derailments due to defects in track	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22. Derailments due to obstruction on track	..	..	..	..	..	..	3	4	..	..	..	..	3	4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
23. Derailments due to running over cattle	..	..	..	..	..	..	..	3	..	..	..	..	..	3
24. Derailments due to uneven loading	..	..	..	..	..	..	2	6	..	..	..	..	2	6
25. Derailments due to a combination of causes or other miscellaneous causes	..	..	..	3	..	..	4	42	..	..	..	..	4	45
26. Bursting of points during shunting of trains or during reception or despatch of trains	..	..	..	..	..	..	..	..	..	..	..	..	..	..
27. Driver losing token on the run	..	..	..	..	..	..	..	..	..	..	..	..	..	..
28. Partings of trains due to flaw in metal resulting in on further consequences	..	..	..	..	..	..	1	15	..	..	..	..	1	15
29. Partings of trains due to faulty maintenance resulting in no further consequences	..	..	..	..	..	..	..	..	..	..	..	..	..	..
30. Partings of trains due to loose couplings resulting in no further consequences	..	..	..	..	..	..	..	..	..	..	..	..	..	..
31. Partings of trains due to heavy jerks resulting in no further consequences	..	..	..	..	1	..	..	..	..	..	..	..	1	..
32. Partings of trains descreibed as accidental and resulting in no further consequences	..	..	..	..	..	..	..	..	..	..	..	..	..	..
33. Derailments or pertings of trains for which responsibility could not be established or has yet to be established	..	..	1	..	17	41	..	..	..	2	..	..	18	43
34. Fires caused on trains by sparks from engines	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35. Fires on trains due to electrical causes	..	..	..	..	..	..	..	..	..	..	..	..	..	..
36. Fires on trains due to cigarette ends etc.	..	..	..	..	..	..	..	..	..	..	..	..	..	..
37. Fires caused on trains by friction and other miscellaneous causes	..	..	5	16	..	..	..	..	..	1	..	..	5	17
38. Fires whose cause remains undetermined	..	..	..	..	..	..	..	..	..	..	..	..	..	..
39. Fires on trains whose cause is still under investigation	..	..	..	..	..	..	..	..	..	..	..	..	..	..
40. Sabotage cases on trains	..	..	..	..	..	..	4	11	..	..	..	1	4	12
41. Attempted sabotage	..	..	..	..	..	..	..	..	..	..	..	..	..	..
TOTAL	9	74	11	173	24	84	29	168	71	141	4	34	148	674

STATEMENT No. 6

Statement showing the cost of damage to Railway Property in different types of Train Accidents during the period 1-1-53 to 10-1-54

Nature of accident 1	Central Railway Rs. 2	Eastern Rly. Rs. 3	Northern Rly. Rs. 4	North-Eastern Rly. Rs. 5	Southern Rly. Rs. 6	Western Rly. Rs. 7	All Railways Rs. 8
1. Collisions between trains between two stations . . .	18000	51017	..	252603	216428	..	538048
2. Collisions involving a train .	11151	49804	8150	7219	9675	26500	112499
3. Side collisions involving a train	3757	18792	289	153	4914	2150	30055
4. Averted collisions . . .	105	1507	472	110	12	500	2706
5. Trains parting and subsequent collision between parted portions of the train . . .	..	..	5504	2593	24011	90675	122783
6. Collisions between Trollies and Trains	225	1010	..	200	..	627	2062
7. Collisions between a train and a road vehicle at a manned level crossing . . .	4745	60	1300	866	155	..	7126
8. Collisions between a train and a road vehicle at an unmanned level crossing . . .	71	1634	197	5001	913	4773	12589
9. Collisions between a train and a road vehicle at a place which is not a level crossing . .	..	675	49	49	..	25	789
10. Vehicles running away from stations	..		..	..	22592	..	22592
11. Trains leaving a station without line clear resulting in no consequences . . .	..	..	..	..	..	..	..
12. Trains leaving a station with a wrong authority to proceed resulting in no consequences .	..	..	..	..	..	..	..
13. Drivers running against signals resulting in no consequences or mere bursting of points .	..	117	137	50	..	5	309
14. Wrong reception or despatch of trains at stations due to incorrect setting of points resulting in no consequences . .	..	..	328	15	..	350	693
15. Derailments due to incorrect setting of points or non-locking of points or mismanipulation of points	12933	15464	6675	4402	2695	6805	48974
16. Derailments over traps and derailing switches or dashing of trains against dead-end buffers or sand humps . .	8770	27434	6636	..	883	..	43723
17. Derailments caused by disregard of signals	135	1603	194314	9240	50	..	205342

1	2	3	4	5	6	7	8
18. Derailments due to defects in rolling stock and engines for which maintenance staff are responsible	51038	24062	78903	16053	7883	50515	228454
19. Derailments due to defects in rolling stock or engines caused by flaw in metal or design .	159590	48220	65263	94777	70954	113876	552680
20. Derailments due to rough or improper shunting . .	38945	274	1052	160	403	45	40879
21. Derailments due to defects in track	447	18472	1118	2932	398	20179	43546
22. Derailments due to obstruction on track	..	9525	325	3239	4968	..	18057
23. Derailments due to running of over cattle	2100	..	3510	8316	800	280	15006
24. Derailments due to uneven loading	..	6687	13	961	20743	..	28404
25. Derailments due to a combination of causes or other miscellaneous causes . . .	86022	86595	3820	82061	71393	7090	336981
26. Bursting of points during shunting of trains or during reception or despatch of trains .	..	..	..	..	1477	..	1477
27. Driver losing token on the run	..	..	..	..	..	..	..
28. Partings of trains due to flaw in metal resulting in no further consequences . . .	..	147956	10184	2731	4359	1023	166253
29. Partings of trains due to faulty maintenance resulting in no further consequences . .	..	1379	300	1588	129	30	3426
30. Partings of trains due to loose couplings resulting in no further consequences . .	..	225	41	44	..	..	310
31. Partings of trains due to heavy jerks resulting in no further consequences	..	7914	2926	75	305	166	11386
32. Partings of trains described as accidental and resulting in no further consequences . .	..	..	50	..	..	..	50
33. Derailments or partings of trains for which responsibility could not be established or has yet to be established . .	48279	17703	151524	2646	15456	11186	246794
34. Fires caused on trains by sparks from engines	..	6425	1526	..	25	159	8135
35. Fires on trains due to electrical causes	..	154	126	13	..	300	593
36. Fires on trains due to cigarette ends etc.	..	83	12	500	..	72	667
37. Fires caused on trains by friction and other miscellaneous causes	13700	29042	11085	..	10	..	53837

1	2	3	4	5	6	7	8
38. Fires whose cause remains undetermined	..	..	..	..	..	6234	6234
39. Fires on trains whose cause is still under investigation	..	..	..	..	..	50	50
40. Sabotage cases on trains	18627	15000	..	35475	..	13185	82287
41. Attempted sabotage	..	371	..	212	15	..	598
TOTAL	478640	589204	555829	534284	481646	356800	2996403

STATEMENT 7

Statement of Failure of Signalling, Interlocking and Block Instruments

(a) Signalling and Interlocking failure cases

Name of Railway	1951			1952			1953		
	No. of failures	Average time taken for rectification	Max. time taken for rectification	No. of failures	Average time taken for rectification	Max. time taken for rectification	No. of failures	Average time taken for rectification	Max. time taken for rectification
Eastern	7573	50mts.	18 hrs.	9465	50 mts.	20 hrs.	8917	50 mts.	20 hrs.
Central	980	6½ hrs	113 hrs.	906	7¾ hrs.	78 hrs.	883	6 hrs.	79 hrs.
Northern	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*	6137	4¼ hrs.	68 hrs.
North Eastern	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*	N.A *	N.A.*	N.A.*
Southern	3581	21 hrs.	72 hrs.	4361	18 hrs.	193 hrs.	4540	17 hrs.	192 hrs.
Western	1726	6¾ hrs.	48 hrs.	1488	5⅓hrs	72 hrs.	1903	5 hrs.	75 hrs.

(b) Block instrument failure cases.

Eastern	2745	1 hrs.	30 hrs.	3401	1 hr.	45 hrs.	2978	1hr.	30 hrs.
Central	1303	9 hrs.	173 hrs.	1247	9½ hrs.	149 hrs.	1156	11 hrs.	97 hrs.
Northern	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*	2204	7½ hrs.	75 hrs.
North-Eastern	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*
Southern	1861	11 hrs.	153 hrs.	2779	17 hrs.	172 hrs.	2794	12 hrs.	115 hrs
Western	1946	11 hrs.	109 hrs.	1662	10½ hrs.	217 hrs.	1679	10 ⅓hrs	89 hrs

*Not available.

STATEMENT 8

Statement of cases in which staff earned overtime in the years 1951, 1952 *and* 1953

Name of category	Eastern Railway No. of overtime cases in			Central Railway No. of overtime cases in			Northern Railway No. of overtime cases in			North-Eastern Railway No. of overtime cases in			Southern Railway No. of over time cases in			Western Railway No of overtime cases in		
	1951	1952	1953	1951	1952	1953	1951	1952	1953	1951	1952	1953	1951	1952	1953	1951	1952	1953
Station Master	714	1267	1795	514	521	910	227	380	885	1208	1404	1564	955	1041	1403	NA*	NA*	NA*
Asstt. Station Master	1151	2084	2645	741	708	1079	304	494	751	1793	2091	2635	1510	1539	1540	NA*	NA*	NA*
Guards	4524	8129	8883	2050	3107	5586	346	2736	2953	155	240	783	2694	2091	1674	NA*	NA*	NA*
Pointsman	378	2730	3014	500	762	1711	394	467	523	262	803	931	788	1027	1134	NA*	NA*	NA*
Drivers	9772	16065	16476	1814	5773	7577	1498	3387	3428	NA*	NA*	NA*	1496	2423	3060	NA*	NA*	NA*
Shunters	2972	3957	3850	101	314	708	381	1290	868	NA*	NA*	NA*	1377	2108	2688	NA*	NA*	NA*

NA*—Not available.

APPENDIX A

List of persons whose evidence was recorded by the Committee.

(a) *Railway Officers and Staff*

Particulars of witness.	Place of interview.	Date of interview.
1. Station Master, Central Railway, Agra Cantt.	Agra Cantt.	8-2-54
2. Loco Inspector, Central Railway, Agra Cantt..	Agra Cantt.	8-2-54
3. Superintendent, Agra Area, Central Railway Agra Cantt.	Agra Cantt.	8-2-54
4. Head Train Examiner, Central Railway, Agra Cantt.	Agra Cantt.	9-2-54
5. Assistant Engineer, Central Railway, Agra Cantt.	Agra Cantt	9-2-54
6. HeadTrain Examiner, Western Railway, Agra East Bank.	Agra East Bank.	9-2-54
7. Head Train Examiner, Northern Railway, Tundla	Tundla	10-2-54
8. Running Shed Foreman, Northern Railway, Tundla	Tundla	10-2-54
9. Station Master, Northern Railway, Tundla.	Tundla	10-2-54
10. Divisional Signals and Tele-Communication Engineer, Northern Railway, Moradabad.	Moradabad	11-2-54
11. Divisional Operating Superintendent Northern Railway, Moradabad.	Moradabad.	11-2-54
12. Divisional Superintendent, Northern Railway, Moradabad.	Moradabad	11-2-54
13. Divisional Mechanical Engineer, Northern Railway, Moradabad	Moradabad.	12-2-54
14. Divisional Executive Engineer, Northern Railway, Moradabad	Moradabad.	12-2-54
15. Chief Operating Superintendent, Northern Railway, New Delhi	New Delhi	25-2-54
16. District Signals and Tele-Communications Engineer, Headquarters Office, Northern Railway, New Delhi.	New Delhi.	25-2-54
17. Chief Mechanical Engineer, Northern Railway, New Delhi.	New Delhi.	26-2-54
18. Controller of Stores, Northern Railway,New Delhi	New Delhi	26-2-54
19. Chief Engineer,Northern Railway, New Delhi.	New Delhi	26-2-54
20. Chief Electrical Engineer, Northern Railway, New Delhi.	New Delhi	26-2-54
21. Chief Commercial Supperintendent, Northern Railway, New Delhi.	New Dlhi.	26-2-54
22. Divisional Executive Engineer, Northern Railway, New Delhi.	New Delhi	27-2-54
23. Divisional Operating Superintendent, Northern Railway, New Delhi.	New Delhi	27-2-54
24. Divisional Mechanical Engineer No. 1, Northern Railway, New Delhi.	New Delhi	27-2-54
25. Divisional Mechanical Engineer No. 2, Northern Railway, New Delhi.	New Delhi	27-2-54
26. Divisional Signals and Telecommunications Engineer, Northern Railway, New Delhi.	New Delhi	27-2-54
27. Permanent Way Inspector, Northern Railway, Fatehpur.	New Delhi	8-3-54
28. Chief Mechanical Engineer, Central Railway, Bombay.	Bombay	10-3-54
29. Chief Electrical Engineer, Central Railway, Bombay.	Bombay	10-3-54
30. Chief Engineer, Central Railway, Bombay.	Bombay	10-3-54
31. Controller of Stores, Central Railway, Bombay.	Bombay	10-3-54
32. Chief Signals and Telecommunications Engineer Bombay	Bombay	10-3-54
33. Chief Operating Superintendent, Central Railway, Bombay	Bombay	10-3-54 and 11-3-54
34. General Manager, Central Railway, Bombay.	Bombay	11-3-54
35. Permanent Way Inspector, Central Railway, Igatpuri.	Bombay	11-3-54

Particulars of witness	Place of interview	Date of interview
36. Chief Engineer, Western Railway, Bombay.	Bombay	12-3-54
37. Chief Operating Superintendent, Western Railway, Bombay.	Bombay	12-3-54
38. Chief Signals and Telecommunications Engineer, Western Railway, Bombay.	Bombay	12-3-54
39. Chief Electrical Engineer, Western Railway, Bombay.	Bombay	12-3-54
40. Controller of Stores, Western Railway, Bombay.	Bombay	13-3-54
41. Chief Mechanical Engineer, Western Railway, Bombay	Bombay	13-3-54
42. General Manager, Western Railway, Bombay.	Bombay	13-3-54
43. Chief Operating Superintendent, Southern Railway, Madras.	Madras	15-3-54
44. Chief Signals and Telecommunications Engineer, Madras.	Madras	15-3-54
45. Chief Mechanical Engineer, Southern Railway, Madras.	Madras	15-3-54
46. Chief Engineer, Southern Railway, Madras.	Madras	16-3-54
47. Controller of Stores, Southern Railway, Madras.	Madras	16-3-54
48. Deputy Chief Electrical Enginieer, Southern Railway, Madras.	Madras	16-3-54
49. Regional Traffic Superintendent, Mysore Region, Southern Railway, Mysore.	Bangalore	17-3-54
50. Regional Mechanical Engineer, Mysore Region, Southern Railway, Mysore.	Bangalore	17-3-54
51. Regional Engineer, Mysore Region, Southern Railway Mysore.	Bangalore	17-3-54
52. General Manager, Southern Railway, Madras	Madras	18-3-54
53. Chief Operating Superintendent, Eastern Railway, Calcutta.	Calcutta	22-3-54 and 23-3-54
54. Chief Mechanical Engineer, Eastern Railway, Calcutta.	Calcutta	23-3-54
55. General Manager, Eastern Railway, Calcutta.	Calcutta	23-3-54
56. Chief Signals and Telecommunications Engineer, Eastern Railway, Calcutta.	Calcutta	24-3-54
57. Chief Engineer, Easten Railway, Calcutta.	Calcutta	24-3-54
58. Chief Electrical Eingineer, Eastern Railway, Calcutta.	Calcutta	24-3-54
59. Controller of Stores, Eastern Railway, Calcutta.	Calcutta	24-3-54
60. Assistant Permanent Way Inspector, Eastern Railway, Sonua.	Calcutta	24-3-54
61. Chief Mechanical Engineer, Loco Manufacturing Workshop, Chittaranjan	Chittaranjan	25-3-54
62. Shri Krishnamurthy, Central Standards Office, Chittaranjan.	Chittaranjan	25-3-54
63. Chief Operating Superintendent, North Eastern Railway, Gorakhpur.	Gorakhpur	27-3-54
64. Chief Electrical Engineer, North Eastern Railway, Gorakhpur.	Gorakhpur	27-3-54
65. Chief Machanical Engineer, North Eastern Railway, Gorakhpur.	Gorakhpur	27-3-54
66. General Manager, North Eastern Railway, Gorakhpur.	Gorakhpur	27-3-54
67. Chief Engineer, North Eastern Railway, Gorakhpur.	Gorakhpur	28-3-54
68. Chief Signals & Telecommunications Engineer, North Eastern Railway, Gorakhpur.	Gorakhpur	28-3-54
69. Controller of Stores, North Eastern Railway, Gorakhpur.	Gorakhpur	28-3-54
70. Shri Tilak, Chairman, Subordinate Railway Service Commission, Allahabad.	Gorakhpur	28-3-54
71. Regional Traffic Superintendent, North Eastern Railway, Lucknow Region, Lucknow.	Lucknow	29-3-54
72. Regional Mechanical Engineer, North Eastern Railway, Lucknow Region, Lucknow.	Lucknow	29-3-54

Particulars of witness	Place of interview	Date of interview
73. Regional Engineer, North Eastern Railway, Lucknow Region, Lucknow.	Lucknow	29-3-54
74. Deputy Chief Controller of Standardisation, Central Standards Office, New Delhi.	New Delhi	6-4-54
75. General Manager, Northern Railway, New Delhi.	New Delhi	6-4-54
76 General Secretary, Indian Railways Conference Association, New Delhi.	New Delhi	7-4-54
77. Neutral Control Officer, Indian Railway, Conference Association, New Delhi.	New Delhi	7-4-54
78. Member, Transportation, Railway Board, New Delhi.	New Delhi	12-4-54
79. Shri Govind Prasad Srivastav, Deputy Station Master, Western Railway, Neemuch.	New Delhi	15-4-54
(b) *Non-Railway Government Officers*		
80. Government Inspector of Railways, Bombay	Bombay	13-3-54
81. Government Inspector of Railways, Bangalore.	Bangalore	17-3-54
82. Government Inspector of Railways, Calcutta.	Calcutta	21-3-54
83. Government Inspector of Railways, Lucknow (at Calcutta) .	Calcutta	21-3-54
(c) *Union Representatives*		
84. Shri N. N. Chatterjee, Train Examiner, Eastern Railway, Sealdah, representing All India Train Examiners' Welfare Committee	Calcutta	24-3-54
85. Shri Saral Kumar Bannerjee, Train Examiner, Eastern Railway, Budge-Budge, representing All India Train Examiners Welfare Committee.	Calcutta	24-3-54
86. Shri S. D. Bose, Train Examiner, Eastern Railway, Sealdah, representing All India Train Examiners' Welfare Committee.	Calcutta	24-3-54
87. Shri Santosh Kumar Ganguli, Carriage Foreman, Eastern Railway, Ondal, representing All India Train Examiners' Welfare Committee.	Calcutta	24-3-54
88. Shri Arun Chatterjee representing Eastern Railway Labour Union.	Calcutta	24-3-54
89. Shri Sunil Roy Chowdhary, representing Eastern Railway Labour Union.	Calcutta	24-3-54
90. Shri Shambhu Gupta, respresenting Eastern Railway Labour Union.	Calcutta	24-3-54
91. Shri Surya Krishan Sinha representing Eastern Railway Labour Union.	Calcutta	24-3-54
92. Shri P. K. Sen, Working President, N. E. Railway Staff Welfare Union, Gorakhpur.	Gorakhpur	28-3-54.
93. Shri Raj Ballabh Parshad Srivastava, General Secretary, N.E. Railway Staff Welfare Union, Gorakhpur.	Gorakhpur	28-3-54
94. One member of N.E. Railway Staff Welfare Union, Gorakhpur.	Gorakhpur	28-3-54
(d) *Members of the Public*		
95. Shri L. B. Ajwani, Retired Assistant Transportation Officer, Northern Railway.	New Delhi	23-2-54
96. Shri Devi Dayal Bahl, Retired Station Master of old North-Western Railway.	New Delhi	2-3-54
97. Shri B. K. Ramachar, Member, Central Railway Zonal Consultative Committee.	Bombay	11-3-54
98. Shri J. G. Mehta, Member, Central Railway Zonal Consultative Committee.	Bombay	11-3-54
99 Shri H. N. Gokhale, Member, Central Railway Zonal Consultative Committee.	Bombay	11-3-54

Particulars of witness	Place of interview	Date of interview
100. Shri Amar Singh Sehgal, M.P., Member, Central Railway Zonal Consultative Committee.	Bombay	11-3-54
101. Dr. N. M. Jaisooriya, M.P., Member, Central Railway Zonal Consultative Committee.	Bombay	11-3-54
102. Shri Hasham Premji, Member, Central Railway Zonal Consultative Committee.	Bombay	11-3-54
103. Shri Arjun Lal B. Lala, Member, National Railway Users' Consultative Committee.	Bombay	12-3-54
104. Shri Chaggan Lal Mittal, Member, Western Railway Zonal Consultative Committee.	Bombay	12-3-54
105. Shri Vallabh Das Paraj, Member, Western Railway Zonal Consultative Committee	Bombay	12-3-54
106. Shri A. B. Pandya, Member, Western Railway Zonal Consultative Committee.	Bombay	12-3-54
107. Shri T. N. Kalidass Iyer, President, Railway Passengers' Association, Tanjore.	Madras	16-3-54
108. Shri J. V. Somayajulu, Member, Southern Railway Zonal Consultative Committee.	Madras	18-3-54
109. Shri A. L. A. R. Somanathan Chettiar, Member, National Railway Users' Consultative Committee.	Madras	18-3-54
110. Shri G. R. Govindarajulu Naidu, Member, Southern Railway Zonal Consultative Committee.	Madras	18-3-54
111. Shri P. R. Chikodi, Member, Southern Railway Zonal Consultative Committee.	Madras	18-3-54
112. Shri P. T. Rajan, M.L.A., Member, Southern Railway Zonal Consultative Committee.	Madras	18-3-54
113. Shri B. S. Balasundaram, Member, Southern Railway Zonal Consultative Committee.	Madras	18-3-54
114. Shri A. Mariappan, Member, Southern Railway Zonal Consultative Committee.	Madras	18-3-54
115. Shri K. Rajagopala Pillai, Member, Southern Railway Zonal Consultative Committee.	Madras	18-3-54
116. Sir Lakshmipati Misra, Member, National Railway Users' Consultative Committee.	Calcutta	22-3-54
117. Dr. Radha Kumud Mukerjee, M.P., Member, National Railway Users Consultative Committee.	Calcutta	23-3-54
118. Shri Ramchandra Mardaraj Deo, M.L.A., Member, Eastern Railway Zonal Consultative Committee.	Calcutta	23-3-54
119. Shri A. R. Khan, Gwynne Tank, Lucknow.	Lucknow	26-3-54
120. Shri V. D. Aurora, Member, North-Eastern Railway Zonal Consultative Committee.	Gorakhpur	27-3-54
121 Shri G. S. Pande, Member, North-Eastern Railway Zonal Consultative Committee.	Gorakhpur	27-3-54
122. Sir Surinder Singh Majithia, Member, N. E. Railway Zonal Consultative Committee.	Gorakhpur	27-3-54
123. Dr. Mahadeo Chand, Member, N. E. Railway Zonal Consultative Committee.	Gorakhpur	27-3-54
124. Shri Jawan Mal Purohit, Member, Northern Railway Zonal Consultative Committee.	New Delhi	7-4-54

APPENDIX B

List of Recommendations made by Enquiry Committees in individual accident cases during the period 1-1-1953 to 10-1-1954 showing the remarks of railways about their implementation

Serial No.	Particulars of accidents	Particulars of recommendations made	Remarks of railways about implementation
		(a) Central Railway	
1.	On 2-1-53, between Parbhani and Ganga Kher at an unmanned level crossing gate 129 Dn. Passenger train ran into bullock cart due to the absence of the cartman, *i.e.*, the cart was unmanned.	Bushes that obstruct the visibility to be cut down.	This has been carried out.
2.	On 7-3-53 between Parbhani and Pingli while 442 Up goods train was on the run N. S. R. (CR) wagon No. 481 K. L. 3rd from the engine derailed. This wagon travelled in the derailed condition upto miles 185/8-9 resulting in the derailment of 11 other wagons and the brake van due to buffing forces coming into play when controlling the speed of the train down a falling gradient of 1 in 133.	The batch of wagons which had attained an age of 53 years as against the normal life of 30 years should be taken off rails and declared unfit for use.	There is shortage of wagons and the matter is under consideration.
3.	On 8-3-53 at Victoria Terminus station while C 58 Up Local train was approaching V. T. station there was a derailment on it.	Frequency of inspection of coaches should be increased from 21 days to 15/16 days.	Frequency of inspection increased from 18 days' interval to 15/16 days' interval.
4.	On 14-3-53 at Jora Allapur station while the engine of 173 Dn mixed train was proceeding from loop to main like after detaching two loaded wagons on the loop line, it derailed due to cinders from the heap, which was lying near the track, suddenly slipping and falling on the track.	Instructions to be issued to contractors in connection with the stacking of coal ashes away from rails in order to avoid similar accidents.	Necessary instructions have been issued by Engineerin Department.
5.	On 18-3-53 between Bhandai and Agra stations 51 Dn passenger train ran into the Trailor Tractor No. 2850 at'C' class Engineering level crossing gate No. 490 due to driver of the Tractor having attempted to cross the track in the face of an approaching train.	Census of road traffic be taken and, if justifiable, the gate be upgraded.	On taking census it was found that there was no justification to upgrade the said level crossing gate.
6.	On 24-3-53 between Timarni and Charkhera stations while F 30 Up goods train was passing, the engine ran into a dip lorry belonging to Sub P.W.I. Harda resulting in derailment of the engine due to failure of Engineering staff and also train staff to follow the rules.	To amend SR 224-2(b)(i) providing further protection to trollies.	Recommendations are under examination.

Serial No.	Particulars of accidents.	Particualrs of recommendations made.	Remarks of railways about implementation.
7	On 3-4-53 at Poona while up Ghorpuri-Poona shuttle goods was being admitted on line No. 3 the driver over shot the derailing switch resulting in derailment of the engine.	Provision of stop boards recommended.	Matter is under correspondence with the Engineering Department.
8	On 6-4-53 between Sanatnagar and Lingampalli while 92 up rail car was on the run fire was noticed in the rear car which spread all over and the car was completely burnt. The cause of fire is attributed to the ignition of an oil impregnated asbestos rope sticking out of the silencer case and remaining in contact with the hot exhaust pipe.	1. The casting of the exhaust silencers be properly fitted and secured so as not to permit the asbestos rope projecting out.	C.M.E. has taken action to implement Government inspector of Railways' recommendations.
		2. Steps should be taken to stop leakage of oil from the Hydraulic coupling and the crank case.	
		3. As the fly-wheel has a tendency to splash oil on the frame steps may be taken to provide a device to prevent this.	
		4. The underframe of Rail Cars should be cleaned regularly so that no dirt or oily waste may accumulate and ultimately become a source of fire.	
		5. The question of eliminating or at least reducing to the minimum inflammable material on the rail car such as the wooden flooring of the cab and the flexible rubber pipes may be considered.	
9	On 12-4-53 at Badanpur while Down Haihar Pilot was being admitted on the 2nd loop line the driver lost control of the train, the engine entered the sand hump and derailed due to failure of the train staff to follow the rules.	1. That as there are a number of trains operating from Jukehi to Eymore, Katni and Satna a Train Examiner with one fitter and one Y. K. C. should be posted at that station to attend to vacuum brake defects, and to ensure the observance of S.R. III-2 (h), (i) & (j) of the G & S. Rules.	The matter is being. examined.
		2. We recommend that S.R. III-2(h) of the G & S Rules should be amended to provide for the driver being responsible for bringing into operation the provisions of S. R. II-2(h) & (i) & (j) for such trains as originate from stations where there are no Train Examining staff provided. In effect that the driver at such starting points must be held responsible for examining the complete train to ensure the effectiveness of the vacuum brake.	

Serial. No.	Particulars of accidents.	Particulars of recommendations made.	Remarks of railways about implementation
		3. We recommend that such drivers who have not 2 years of experience as Firemen and who have not less than 2 years experience as drivers, be reverted as shunters, and that, in future no fireman should be promoted as shunter unless he has completed 20,000 miles as a Fireman on goods trains and thereafter works as a shunter for not less than 3 years before, being employed as a Driver on a goods train. 4. The statements of the Station Master and Leverman at Bhadanpur, witnesses Nos. 1 & 6 that they would have reversed the points from sand hump siding to the Main line to permit the driver an opportunity to regain control, had there been time to do so, indicate a lack of knowledge of the reasons for the provisions of the sand hump and the failure to appreciate the serious consequences which might follow the switching of a runaway train to the main line. It is necessary for the attention of all the station Masters and Levermen to be drawn to the danger of switching a runaway train to a main line where sand humps have been provided. 5. The Station Master stated that he has not passed the examination in First Aid. It is desirable that all Station Masters and Assistant Station Masters should be required to pass the First Aid Examination.	
10	On 26-4-53 at Choka while JU 18 Dn Goods was passing over the newly relaid track at the station, the driver suddenly applied the brakes which resulted in the derailment of three waggons. It was due to the sudden lifting of the middle wagon due to the continued pushing from the banking engine combined with a heavy recoil from the front after the leading driver shut his regulator when he stalled on an ascending gradient of 1 in 80 on a curve of 40.	Instructions to be issued that both train driver and Banking driver would maintain close co-operation while on the run.	The recommendations implemented.

Serial. No.	Particulars of accidents.	Particulars of recommendations made.	Remarks of railways about implementation.
11	On 12-5-53 between Sumaoli & Jora Allapur 661 Dn Mixed train ran into a bullock cart occupied by some persons at a level crossing gate due to one of the wheels of the cart having got entangled on the track.	There are number of important level crossings on the ex-Scindia State Railway, where important roads including the Trunk road out accross the track, without the provision of either the level crossing gates or even chains. As there is a large increase in the road traffic, the provision of level crossing gates at the most important level crossing should be investigated so as to increase the safety factor.	The matter is being investigated by the Chief Engineer.
12	On 30-5-53 between Mankhurd and Chambur M-50 Up Local train ran into a motor lorry No. BNS 7984 loaded with bones at level crossing gate No. 2 near Chambur station due to negligence of gateman for leaving the gate.	1. The practice of requiring the gateman at Transportation level crossings to come to the station every day to obtain supplies of oil etc., should be discontinued and arrangements similar to those in force at the Engineering level crossings, should be made for the supply of equipment and stores at the gate lodge. The gateman should not even be utilized for lighting the station single lamps. 2. Arrangements should be made to provide the required number of gate lodges at the level crossings, so that the gatemen could reside in the gate lodges, thereby obviating the necessity of their having to go to stations for their requirements of water, tea, food etc. 3. Instructions should be issued that a gateman should never leave his level crossing unattended, and if, for any special reason, he has to go beyond range of view of the level crossing, he should arrange with the gang mate in case of the Engineering and the A.S.M. in case of Transportation level crossings, for a suitable substitute to be provided to look after the level crossing and road traffic during his absence; as leaving the gates unattended encourages road traffic to resort to direct method to open the unattended gates, which, at times, leads to accidents. It should be remembered that according to section 104 of the Indian Railways Act, it is an offence to unnecessarily keep a level crossing closed against the public	G. I. R's. recommendations have been implemented except item (2) which will be implemented progressively as funds permit.

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		4. Suitable instructions should be issued to the medical staff with a view to ensure that in the case of accidents, where somebody has been injured, a railway doctor on being advised of the accident should proceed to the site of the accident without delay by the quickest possible means, even though it is reported that local medical aid has been arranged for. In the absence of any Railway doctor being available at the site, raiway servants should also be instructed to request any private local doctors available to accompany the grieviously injured persons for admission to the hospital.	
13	On 27-6-53 at Morena station during shunting operations engine of a ballast train derailed on points No. 10B on the 4th line due to failure of train and station staff to follow the rules.	The Committee visited the scene of the derailment and found that a disc-signal is provided for the derail switch No 10-B but the disc-signal only operates when points No. 10-B is set for a train to leave No. 4 line and come on to the main line. For a train to move from No. 4 line on to the long siding this signal does not operate and there is no other indication controlling this movement and the movement depends entirely on the hand signals being exhibited by the leverman 'B' Cabin. The Committee also inspected the adjoining goods shed line and found that a point indicator is provided for controlling the movement from goods shed line on to the long siding or on to the main line except that when trains leave goods shed line for the main line the driver is given authority to start and the point indicator is set against the derail. The Committee enquired into the movements that took place over line No. 4. This line can only accommodate about 40 vehicles and is very seldom used by through trains. Section trains and other working trains mostly come on No. 4 line and all down trains have, therefore, to use the connection from No. 4 line to long siding for shunting purposes and as such, the Committee feel that there is insufficient safeguard controlling the movement of a train from No.	Recommendations have been implemented.

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		4 line to the long siding. In view of the above, the Committee, therefore, recommends that signal No. 10-B, which works with points No. 10-B, when it is set for the main line, should be disconnected from the main line, set up and should be connected to indicate passage for the long siding. Trains leaving No. 4 line for the main line will leave under the starting authority T-189-B. The advantage of this will be that movements from No. 4 line to long siding will always be controlled by a signal indicating the position of the derail.	
14	On 1-7-53 between Igatpuri and Kasara stations while BPT 47 goods train was proceeing from TGR 2 to TGR 4 on the Thull Ghat section, E.I.R. wagon No. 93911, 4th from the engine, derailed in tunnel No. 5-A between chainage 14 to 15 due to this vehicle being mismarshalled in contravention of S.R. 93/7(c) due to failure of station staff to follow rules.	It was recommended that the duties of Trains Clerk at Igatpuri be job-analysed.	Three additional post of Trains Clerks created at Igatpuri on the recommendation of job analysis.
15	On 1-8-53 between Ambari & Kinwat while 805 Dn goods train was on the run SR loaded wagon No. 2041 CW, 12th from the engine, drailed at mile 73/20. This wagon travelled in the derailed condition causing derailment of 7 other wagons.	Engines utilized to work trains on Mudkhed-Addilabad and Parbhani Purli-Vaijnath Section should be equipped with speedometers.	The question is being examined.
16	On 8-8-53 at Nizamabad while No. 573 Dn. passenger was leaving the station 2 bogies Nos. SCT 164 & T. 176 derailed on points No. 22 which were previously burst through when the engine was backed on the train.	Starter signal to be provided.	The question is being considered.
17	On 22-8-53 between Bordhai and Nawegaon a head-on collision occurred between 790 up goods train and light engine No. 1148M/4 resulting in capsizing of 6 loaded wagons due to failure of train and station staff.	1. There have been so many irregularities committed by the Railway staff in this case that I only wish that the Railway Administration would seriously analyse the causes of the lax working among their staff and take steps to ensure that Rules & Regulations framed by them for the safe working of train are followed by their staff.	Each and every case of irregularity which is brought to notice is thoroughly investigated and there are no grounds for accepting the remarks made by the Government Inspector of Railways. Rules & Regulations made by the Administration for the safe working of trains are fully understood by the staff.

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		2. The quality of inspection of stations by Railway officers should be improved and the records of train passing work at stations & knowledge of the staff about the details of the train passing procedure should be more thoroghly checked to detect irregularities in working and suitable disciplinary action should be taken for any irregularities detected.	While instructions will be renewed for suitable disciplinary action being taken against deliquents, it cannot be accepted that Railway officers do not carry out their inspections in a thorough manner.
		3. While inspecting stations, railway officers should see if the staff have any real difficulty about complying with any train passing rules and, if so, they should take steps to have the subsidiary rules or the station Working Orders suitably modified, so that the difficulty of the staff is removed without sacrificing the safety of train passing work. Failure to do this leads to the staff losing respect for the sanctity of the rules.	There are standing instructions that inspecting officials should ensure that the staff concerned understand the rules and these instructions will be renewed.
		4. It has been noticed that some of the senior Transportation officers are not well up in the details of the train passing procedure and are therefore, not able to focus their attention on the conditions and circumstances that lead to accidents. It is suggested that Senior Transportation officers should also be given Refresher Courses in the Railway Staff College, where more attention should be paid to the subject of 'Accidents', their causes and their prevention.	While accepting that training courses are desirable, it is not possible to accept the very wide observation that the Senior Transportation Officers are not well up in the details of the train passing procedure.
		5. Immediate steps should be taken to issue a Correction Slip to Subsidiary Rule 373 laying down clearly the details of the procedure to be followed while working trains on single line when on account of failure of the Block Instruments, permission to approach has to be obtained on telephones attached to the Block Instruments.	The matter is being further examined in the light of the correspondence from the Railway Board on the subject.
		6. The practice of obtaining line clear by telephone is not very safe. It is recommended that Subsidiary Rule 373 should be modified so as to lay down that in case of failure of block instruments on single line,	A review of the procedure followed on other Railways in regard to obtaining permission to approach in the event of failure of Block Instruments indicate that the system is not uniform. After taking into considera-

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		trains should be worked on Morse Instruments, as is practice on the Eastern, Western and Northern Railways.	tion the procedure adopted on various railways and the G.I.R's comments, it is considered that the procedure already laid down for obtaining line clear on this railway is in no way less safe than that of obtaining "line clear" on "Morse Telegraph Instrument." However, the matter is being further investigated in the light of the correspondence from the Railway Board.
		7. *Private Number sheets*:—It was noticed that in some cases, no dates had been enteres for 2 or 3 consecutive days against the Private Numbers used. Further, it was not the practice for the Station Masters to draw a line below the last number allotted by them and to initial against it. In order to minimise the careless use of the Private Number Sheets, it is recommended that instructions might be issued to the following effects:— (i) at the commencement of each day, the date must be entered opposite the first number allotted, (ii) when the staff change duty, the Station Master going off duty should draw a line under the number last used and affix his initials against it.	This has been implemented.
18	On 13-9-53 between Mohamadabad Bidar and Halbarga stations while 486 Up mixed was on the run loaded covered wagons No. CR 7451, ER 97089 & 2 Class III bogies No. T 123 & T 196 derailed and capsized, One SCNT No. 409 & two Ts. Nos. 99 & 56 and one TLR 298 derailed due to excessive speed and failure of train staff to follow rules.	1. If there are any links involved in continuous duty of drivers for more than 9½ hours at a stretch on mixed or passenger trains, these may be revised to reduce such duty hours as far as possible.	Necessary action has been taken.
		2. The narrow margin of safety at speeds higher than those permitted on branch lines with black cotton soil banks for running of 4 wheelers wagons (as compared with engines or bogie coaches which may apparently give good running at such speed), should be impressed on drivers by the issue of an explanatory circular pointing out the vulnerability of such wagons over visually undetectable track defect, as soon from the footplate.	Necessary instructions are being issued.

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		3. A "Speed Control" Board may be provided at the commencement of a long descending grade or ghat section to warm driver about the necessity for controlling their trains on such sections to ensure that the maximum permissible speed is not exceeded.	This is being implemented
		4. Suitable speed restrictions should be imposed in the rainy season wherever necessary on this branch if cross-levels are likely to be "Out" beyond a safe-limit, which may be fixed by the Chief Engineer.	The supervisory Engineering staff Permanent Way Inspectors and Assistant Engineers are expected to impose a suitable speed restriction over a section if, in their opinion the track becomes unsafe for the maximum permissible speed on any account.
		5. The circumstances of this derailment have again drawn attention to the importance of a thorough and detailed investigation being instituted in pursuance of the French Expert's suggestion (*vide* para 2, page 10 of their Report dated February 1951), to lay down the maximum permissible limits for variation on cross-levels according to speeds. Separate limit might be necessary for locomotives, bogie vehicles and 4 wheeler wagons.	As regards the investigation into the limits for variation in cross-levels these will be carried out after the track recording cars, which are being ordered, have been received by the Research Director.
19	On 30-10-53 at Bari station while 672 Up mixed train was entering the loop line, the engine derailed near facing points	Speed restriction of 5 m.p.h. is recommended on turn-outs of the ex-Dholpur State Railway till the turn-outs are standardized.	Action is being taken.
20	On 15-12-53 at Kurla station while T 104 Up local train was proceeding from Up local to Up through line the front two coaches 1010 & 7020 derailed on the cross-over due to a brake block which had fallen from the train which passed the spot earlier having got lodged in the tongue of the rail.	The intensive patrolling by special watchmen has considerably mitigated the theft of keys and other permanent way materials and this arrangement of patrolling, particularly near vulnerable points, may be continued. Though this accident has not been due to the interference of track fittings by unauthorized persons, the possibility of tresspassers, interfering with track or its fittings at such exposed vulnerable points and thereby causing serious dislocation to traffic on a heavily worked section should not be lost sight of. We would, therefore, suggest that a good boundary wall for an adequate distance on either side of such points be provided on a programmed basis.	The matter is being examined.

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21	On 29-12-53, at Masjid station engine of 302 Up Poona-Bombay Deccan Queen collided with the rear of K 18 Up local which was standing on the through line at Masjid. Engine of Deccan Queen and rear vehicle of K 18 Up local were badly damaged.	1. The Railway Administration should seriously analyse the causes of the laxs working among their staff and take steps to ensure that Rules & Regulations framed by them for the safe working of trains are followed by their staff. I cannot help feeling that this laxity in working would not exist if the staff knew that the inspecting officers would be able to detect their irregularities and would take suitable disciplinary action. As stated in my Report on Bordhai accident, this laxity in working is an index of inadequate supervision over the working of the staff and of ineffective check on their work. In the present case, a driver who was reported to be a good worker and whose work had been commended by the Railway Administration, violated very definite safety rules. He had been working on the Bombay Division throughout his service and the fact that the idea of observing General Rule 280 did not strike him, shows that he had been used to ignoring it in the past and had never been pulled up for this. Similarly, Driver of No. K 18 Up did not think of observing General Rule 280 inspite of the fact that the Divisional Signal & Telecommunication Engineer and a Trains Inspector were travelling on his train. I, therefore, make the following recommendations:— 2. It is suggested that regular periodical checks should be exercised to enforce the application of General Rule 280 at places where the view of the signal ahead is restricted, by systematically tabulating the cases where the signals have been passed in the 'ON' position and than exercising a percentage check on whether the Drivers had taken the minimum time to cover the distance. 3. In sections where speed recorders are installed on the engines, the charts should be systematically scruti-	1. The need for analysing the causes of slack working amongst the staff and taking steps to ensure that rules and regulations framed for the safe working of trains are meticulously followed is fully recognized and these subjects already receive utmost consideration. The accident in question was due to the failure of an individual driver and it cannot accepted that this an ir of inadequate supervis over the working of t staff or ineffective check on their work. A summary of the action taken in this connection is given below: (a) *Analysis of accidents.—* All train accidents are carefully analysed and these are discussed by G. M. personally at the monthly Heads of Departments Meetings. (b) *Prompt and deterrant action against the defaulting staff.—* Staff responsible for accidents are taken up with and immediate and deterrant punishment meted out so that the same irregularities which cause an accident are not repeated. The punishments awarded by the Divisional Officers in respect of train accident are personally reviewed by the Chief Operating Superintendent, and where the punishments are considered inadequate, they are enhanced. (c) *Intensive drive to make staff safety minded by issue of circulars and fly-leaf notifications, in the weekly Gazette.* Circulars and fly-leaf notifications are issued in the Weekly Gazette from time to time so that the principle of observance of safety practice is kept constantly alive before the staff.

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		nized with a view to checking whether the speed restrictions were being observed. It is noticed that, in many cases, Guards do not record in their train journals the timings of all train halts. In some cases, when the train is not running very late, the guards simply copy out the timings given in the Working Time Table instead of showing the 'actual timings'. It is desirable that the actual timings of all halts, whether scheduled or out of course, should be recorded, also the timings of the trains running through the block stations. This will assist the administration in taking up cases of exceeding maximum permissible speeds or of violation of speed restrictions, and will also furnish the Inquiry Committee with slightly more reliable data on which to base their findings about accidents. It was noticed that the Guard of No. 302 Up had not recorded the timings of the out-of-course halts and the guard of No. K-18 Up could not even produce his train journal. The timings given by them during my Inquiry were based on 'memory' and and not on any 'record'—I, therefore, make the following recommendations:— 4 (a) It is recommended that the Railway Administration should take steps to ensure that guards of all trains correctly record in their Train Journals, the actual timings of the arrivals and departure at all halts whether scheduled or out-of-course. They should also record the timings of the trains running through the various block stations. 4 (*b*) It is further suggested that the Drivers should also maintain some sort of a Journal giving the timings of various halts. This will enable them to watch and to exercise some check on speed of their trains and will help them in the observance of speed restrictions.	A 'Prevention of Accident Week' was held recently to educate the staff with the object of ensuring that:— (i) staff know the rules and working instructions of stations correctly; (ii) they study the defects in working instructions so that they can be rectified. It is proposed to hold such weeks periodically. (d) *Scrutiny of Working Orders.* A thorough examination of working orders of all stations is made by officers whenever they inspect stations. The Working Orders are also being revised from time to time and kept up-to-date. (e) *Higher standard of examination of Rolling Stock.* Detailed instructions are being issued regarding the examination of Rolling stock and the staff being instructed to carry out 'safer to run' examination of carriages and wagons. (f) *Inspection of stations.* All stations are being inspected periodically; important stations are inspected by Transportation officers. Their reports on inspection of stations are submitted in a comprehensive form and action taken on all irregularities pointed out. *Recommendation No.* 2.—The recommendation that regular checks should be exercised to ensure observance of GR 280 is accepted. Instructions have been issued to all supervisory staff of Transportation and Traction Departments that while travelling by trains they must particularly watch the observance of this rule and if there is any failure, the matter should be promptly reported to the Divisional Transportation Superintendent who has instructions to take deterrent action.

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			Recommendation No. 3.—A systematic check of the Teloc speed record is already being exercised by the Assistant Traction Engineer (Rolling Stock), Kalyan. Instructions will now be issued to him to check periodically the teloc charts of passenger trains with regard to permanent speed restrictions applicable to different sections.
		5. Attention of the Administration is drawn to the previous recommendations made by the Railway Inspectorate on the subject of providing training courses for the Railway staff, and it is suggested that the existing training facilities should be expanded and steps should be taken to provide Refresher Courses for Station Masters, Cabinmen, Guards, Drivers etc., at least once every six years. In these courses, special attention should be paid to the subject of "Accidents, their causes and their prevention".	*Recommendation No.* 4 (*a*).—In accordance with the existing instructions the Guards of all trains except suburban trains maintain train journals and record in them the timings of all train halts and the time of passage of the train through a block station in the prescribed form T 20-B. In the remarks columns the reason for the loss of time is also recorded.
		6. It has been noticed that in several cases the Drivers and the Guards are not conversant with the maximum permissible speeds, booked speeds, minimum running time and speed restrictions on the various sections over which they travel due to the fact that this information is not given on the pages containing the Time Table of the section, but is given at different places in the working Time Table. Some of the staff even did not know where to look for this information. With a view to increasing the efficiency of the staff and assisting them in readily obtaining this information, it is suggested that the above information for each section should be shown on the pages of the Working Time Table giving the timings of trains in that section, as is the practice on some Railways.	In accordance with the existing instructions, however, the train journal on form T. 20B is not being maintained for suburban trains and, therefore, the guard of K. 18 up could not produce his train journal at the Enquiry. The Guards are required to maintain skeleton train timings on form T. 13B and from these timings a statement of trains run and of delays to trains on form T. 368B is submitted to the Divisional Transportation Superintendent. The conditions obtaining in respect of suburban services are different from the main line section. There are 568 trains on the suburban sections and the overall run is between 25 minutes and an hour and 25 minutes. The stations are situated at a distance of between 3/4 mile and 2 miles. In the case of majority of block sections the running time between station is 2 to 3 minutes and it has not

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			been considered necessary to prescribe that the train report should be completed on form T. 20 B. The train service will be intensified further in the near future. The exisitng practice for recording train timings is, however, being reviewed and a further report on the action taken on this recommendation will be submitted. *Recommendation No.* 4 (b) One copy of Guard's journal is handed over to the driver as his ticket at the end of each journey. If on any account the driver does not agree to the timings booked by the guard, he passes his comments at the back of the train journal before its submission to the Loco Foreman. The Loco Foreman expresses his own comments on the driver's booking and, where necessary they are put up before the D. M. E. (Power) for perusal and necessary action, if any. In view of the special responsibilities entrusted to the driver in regard to the manning of the engine, observance of signals and safe operation of trains, it is considered undesirable to insist on the driver maintaining a duplicate record of the detailed train journal. Also in accordance with the instructions each driver of a main line train maintains a memo book in which he records important timings at halting stations and also the reasons for the loss of time on loco account, if any. The present instructions in regard to the maintenance of the memo book for recording the important train timings are considered adequate. *Recommendation No.* 5.—In accordance with the existing instructions, Drivers, Guards and Train Examiners who are directly responsible for the safe operation of trains are tested in the knowledge of their

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			duties every three years and those who fail to come up to the requisite standard are dealt with for inefficiency under the disciplinary rules and their increments withheld till they show satisfactory knowledge of the rules pertaining to their duties. These instructions are being carried out meticulously both in the case of steam and electrical drivers. In the case of staff who had reached the maximum of the grade such an examination was dispensed with. Instructions have now been issued that even those staff, who have reached the maximum of their grade. should also be periodically examined every three years in the knowledge of rules concerning safe working of trains. The recommendation that the existing training facilities should be expanded and that steps should be taken to provide refresher courses for Station Masters, Cabin Assistant Station Masters, Guards, Drivers etc., is accepted. Provision for holding refresher courses for the categories of Station Masters, Cabin Assistant Station Masters, Guards and Drivers have already been made at Bina Training School. Due to conditions created as a result of implementation of the Adjudicator's Award it has not been found possible to arrange for Refresher Courses for all staff. The recommendation will be implemented as the staff position improves progressively.
			Recommendation No. 6.— As regards the recommendation that the information concerning maximum permissible speeds, booked speeds, minimum running time and speed restrictions on the various sections should be embodied on the pages of the Working Time Table giving the timings of the train on those sections, the matter has been investigated fully on more than one occasion. In accordance with the

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			procedure in force on this Railway information in regard to these items is being recorded on separate indices at the end of the Working Time Table. The Working Time Table, in its present form, has been in existence on the ex. G.I.P. Railway all along and no complaints have been received so far. It is considered unnecessary to publish information in respect of these items on each page of the time table.
22	On 23-1-53 at Lonavla Driver of 58 up Janta Express passed the outer signal in the On position and stopped near the home signal due to failure of train staff.	It was recommended that all Poona-Lonavla locals, as far as possible, must be admitted on the Dn. Platform line and started from there as a Dn. local at Lonavla station. This should be done even at the cost of a few minutes detention to the Up local at signals. The Committee stated that they did not approve of the existing procedure of starting down locals from the up platform and running it on the wrong road up to C cabin, as the possibility of the driver disregarding signals leaves no margin of safety.	Action has been taken.
23	On 15-11-53 between TGR 4 and Kasara while S.O.K. 50 up goods train was on the run the load parted due to breakage of drawbar due to flawed metal.	The Committee observed that the load of S.O.K. 50 up of 15-11-53, 10 condemned wagons, which were to be roken up and stabled at DENR, had been attached in the rear of the train next to the brake van. The A.V.B. connections of these condemned wagons were found to be in poor state of maintenance and it is suggested that, in future, such condemned rolling stock should not be routed via the ghats, under any circumstances, because it is extremely difficult for the train examining staff to make such wagons vacuum leak proof.	Recommendations are under consideration.
		(b) EASTERN RAILWAY	
24	On 15-1-53 at Sambalpur Road flag station between Jharsuguda and Sambalpur Stations (C) Up Goods ran into and collided with the rear of 66 Up Jharsuguda Sambalpur Road station. Two ticketless passengers were injured.	(1) Introduction of Absolute Block System of Working. (2) No driver should be allowed to work any train without a watch.	Implemented.
		(3) Engines should be provided with speedometers.	No remarks by Administration.

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25	On 15-4-53 at Khargpur Yard while 223 Dn Goods was departing from Goods East Departure Line No. 3, the engine trailed through interlocked point No. 16E and burst the same. After stopping at this stage, the driver backed the train and in doing so, had the engine derailed on the burst point.	Special working orders should be modified to the effect that the Yard Porter should not hand over the starting order until the starter signal is also taken off.	Revised orders have been implemented.
26	On 4-7-53 at Berhampur (Ganjam) Station Yard 325 UP Passenger arrived on main line, the engine and one C.G. load was detached from the train for the purpose of placing the load on to oine No. 4. While backing the load the same passed over point No. 5 safely but the engine derailed by two pairs of bogie wheels.	Points one in 8 1/2 with 12 feet tongue is unsuitable for WP engines.	These are being replaced.
27	On 13-1-53 between Vizianagram and Nellimarla train engine of 201 Down Goods derailed of its leading pair of bissel wheels while proceeding towards Nellimarla due to defect in engine attributable to tyres and wheels combined with defects in track.	The Frist Class Enquiry Committee recommended high level investigation to be made into :— (i) Whether there is any inherent defect in the design of W.G. bissel wheel assembly. (ii) Whether the present limit of wear on rails requires modification to suit W.G. class engines. (iii) Any limit should be placed on variation in curvature of curves on the introduction of W.G. engines.	Pending further investigations and directive from the Head Office speed restriction of 20 m.p.h. for all engines imposed. Immediately arrangements have also been made for rectifying the prominent variations in the curvature after which speed of all engines other than W.Gs. were raised to 4. m.p.h. Arrangements have been made to recondition the curve after which all speed restrictions were removed.
28	On 22-1-53, at 'C' class level crossing between Seethanagaram-Bobbili while No. 104 Up passenger was proceeding towards Bobbili it knocked down a manned double bullock cart and broke the cart into pieces killing the cartman and two bullocks on the spot due to negligence of the cart driver.	The Enquiry Committee recommended the conversion of this unmanned level crossing gate into a double manned one as there is a fair amount of traffic to justify the level crossing being manned.	No remarks about implementation.
29	On 30-1-53 between Theruvali-Bissamouttack No. 277 Dn Goods ran into the Push trolley of S.P.W.I., Theruvali, occupied by	Recommended that from ED. 9-15 as laid down in SRI 223-A should be made compulsory for sections having sharp curves.	No remarks about implementation.

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	himself and Asstt. Surgion grade II Rayaghada as a result of which the trolley was smashed into pieces due to failure of Trolley Holder to follow the Rules.		
30	On 17-2-53 between Parlakimedi and Gangunada Coaching Brakevan No. 7 of 133 Dn. Mixed while on run derailed of its leading pair of wheels due to defect in rolling stock attributable to faulty axle boxes and axle rod.	The Enquiry Committee suggested a close examination of the construction of the coaching brakevan specially the bearing spring assembly as it was considered necessary in view of there being accidents on this section in which coaching brakevans are involved.	Under examination.
31	On 2-6-53 at Vizagapatam Port Yard train engine of 529 Up Goods derailed by its leading bissel wheel after passing the facing points while being admitted by piloting on Reception Line No. 2 due to choking of crossover by ash and debris blown down by the shunting engines.	To prevent points and crossings from such obstructions due to constant fire cleaning and blowing down of shunting engines the Committee suggested construction of baffle wall of 3 feet height alongside the ashpit near 'A' cabin of Vizagapatam Port North Yard.	Not constructed as yet.
32	On 3-9-53 at Vizagapatam Port Yard two wagons Nos. MSM 4707 and EIC 50406, 20th and 21st vehicles from the engine on 518 Dn Goods derailed due to points incorrectly set.	The removal of crossovers in the centre of lines 8 and 9 and 1 and 2 in Vizagapatam Port North holding yard. If, however, the retention of the same be essental, suitable direction fixing responsibility for ensuring proper setting of the same at the time of formation and also prior to departure of trains should be incorporated in the Special Working Orders of the station.	Special Working Orders of Port have been suitably amended to incorporate the latter recommendations.
33	On 25-9-53 between Jamadipeta-Gumada covered Goods wagon No. 2503 BN which was in rear of 318 Dn Passenger derailed of all four wheels while on run due to attaching of wagon with 11 feet 6 inches wheel base by fast passenger train combined with the defect in rolling stock attributable to faulty axleboxes and axle guards and defects in track to some extent.	Recommended that all Goods wagons stencilled for movement by passenger trains should be booked for FOH every year and such wagons stencilled fit to run by coaching trains should be checked up to conform to the standard of 15 feet and more wheel base stipulated for the purpose.	The recommendation is being implemented.
34	On 15-6-53 between Amghata and Krishnagar Road stations side collision took place between 2 SN Dn Passenger and motor lorry No. WBL 4263 due to negligence of the lorry driver.	Provide fencing along the railway track on the section or some indication in the shape of white line or pillars at short distances to caution against infringement of standard dimension.	Under correspondence with Chief Engineer.

Serial No.	Particulars of accidents	Particulars of recommendations made	Remarks of railways about implementation
35.	On 11-7-53 at Madhyamgram lorry No. WBL 8390 side collided against S 317 Up Passenger ex. Calcutta to Bongaon causing damage to carriage doors and severe injury to two persons due to negligence of the lorry driver.	Since Madhyamgram is growing into importance day by day, provision of an approach road is considered essential and the loop line is to be fenced off.	Action being taken.
36.	On 20-8-53 at Dum Dum Cantt. Jessop Co.'s siding wagon No. BNC 32336 of 719 Up Dum Dum Cantt. Pilot came in contact with a motor vehicle No. BLA 9532 at the unmanned level crossing gate due to negligent driving of the motor vehicle.	(1) To erect proper road sign at both ends on H.M. Dutta Road at suitable distances where the said road crosses the Railway track by the Chairman Dum Dum Municipality.	(1) Already implemented.
		(2) The unauthorised structures by Coal plot holder have to be pulled down immediately which obstruct the view.	(2) Matter has been referred to Law Officer for filling ejectment suit against the party.
		(3) The unmanned level crossings between Dum Dum Cantt. station and Jessop Co.'s siding be kept normally closed to rail traffic with barriers at suitable distances.	(3) Arrangements are being made to provide barriers.
		(4) Till item 3 has been acted up to the S.M. may be asked to issue instructions to the Line Jamadar and the Train Guard to stop short of the unmanned level crossings to look out for road vehicles before making any movement.	(4) Arrangements have been made as suggested.
37.	On 12-3-53 between Barabani and Sitarampur Domohani Pilot ran against a light Trolley and damaged it slightly due to failure of both P.W.I. staff and Train staff to follow the rules.	Domohani Pilot should run with reduced load during relaying.	Implemented.
38.	On 12-5-53 between Toposi and Barabani motor car No. 1524 WGJ collided with the brakevan of Toposi Pilot at an unmanned level crossing.	To convert the unmanned level crossing to a manned level crossing	Under reference with District Magistrate, Burdwan.
39.	On 3-7-53 at Gomoh station an averted collision took place between 802 Down Goods train engine No. 6257/XE1 and derailed yard pilot engine No. 1191/CT due to failure of train staff to follow the rules.	For shifting the trap point No. 10W, 50 feet away from the crossing of turn-out 10W towards point No. T/30.	The trap point has been shifted.

Serial No.	Particulars of accidents	Particulars of recommendations made	Remarks of railways about implementation
40.	On 8-10-53 at Gomoh station reception of 61 Up Mail direct up to E.C.C. starter signal No. 14 was arranged while Jarangdih Pilot engine No. 1543/HGS was standing at Kalka end of starter signal.	Up main line starter to be shifted back by 9 feet.	This is under implementation.
41.	On 26-2-53 between Gaya and Kestha bogie No. T 2952 on 73 Up Passenger caught fire due to a package containing a petrol tin suddenly catching fire by coming in contact with a lighted match.	1. Special pictorial posters laying the hazards of carring explosives to be displayed. 2. Warning notice for prevention of accidents to be displayed in coaches. 3. Occasional surprise checks to be done in trains.	1. Posters have been displayed. 2. Warning notices have been displayed. 3. Occasional checks are done.
42.	On 1-4-53 between Wazirganj and Tilaiya collision between 281 Up and 282 Dn Work trains took place due to 281 Up being despatched from Tilaiya without line clear from Wazirganj.	Token system of working to be introduced instead of paper line clear on the section.	No remarks offered by the Administration.
	(c)	Northern Railway	
43.	On 7-1-53 between Rajpura and Sarai Banjara stations, 79 Up Parcel Express left Rajpura without permission to approach having been obtained from Sarai Banjara.	The Assistant Station Master Rajpura exchanges private numbers for reception and despatch of stopping trains at one and the same time, it is felt that private numbers should be exchanged separately for each transaction.	Since implemented.
44.	On 2-2-53 at Kalka station yard (N.G.) BC No. 1339 (store van) was placed on platform line No. 4 for transhipment of stores and was not removed from there. The reception of 10 K.S. was arranged on the same line and signals taken off. The driver of 10 K.S. finding B.C. on the same line stopped about 226 ft. short of it.	1. Reversable slides for all signals be provided at Kalka. 2. Off going Assistant Station Master should record in his diary the position of all running lines of BG and NG yards. 3. Chief Train Clerk should only block running lines with the permission of Asstt. Station Master indicating exact time for which blocked and arrange its clearance before the expiry of that time.	1. The work has been pended till 1955-56. 2. Necessary instructions have been issued. 3. This has been incorporated in the Working Rules of Kalka station.
45.	On 3-2-53 between Shakurbasti and Nangloi stations 95 Up Passenger collided with private road truck No. DLH 5829 loaded with bricks at unmanned level crossing No. 226/C due to the carelessness of the Truck Driver.	The traffic passing unmanned level crossing No. 226/C warrants provision of level crossing gates.	The Civil Authorities have been written to bear the cost of the expenditure involved in converting unmanned level crossing into manned level crossing. The matter has not yet been decided.

Serial No.	Particulars of accidents	Particulars of recommendations made	Remarks of railways about implementation
46.	On 4-2-53 at Chunar station yard open truck No. EI 92062 (jointly loaded with open truck No. 12153) on 174 Dn Goods derailed during shunting operation due to shifting of load over the curve and the jumping of the wheels due to uneven loading.	Forbidding loading of rails over two KFs.	Instructions have been issued.
47.	14-2-53 at Merta Road station (MG) while 223 Up Goods was entering the yard N. Railway KBC No. 2229 derailed due to failure of station staff and maintenance staff.	Red banners be supplied for erecting on both ends of the place where the work is in progress like caution beards on the block section.	Red banners are now used.
48.	On 20-2-53 between Koparlahar and Jawala Mukhi Road stations while F70 Dn. Goods was passing its brakevan No. 402040 got derailed of its front pair of wheels due to defective design of brakevan as its weight was very light for the ghat section.	It was proposed to increase tare weight of the brakevan.	Arrangements are being made to increase the tare weight of NG brakevans by providing cast iron and hard wood slabs with luggage compartments.
49.	On 27-3-53 between Simbhooli and Babugarh stations while 693 Up Goods was passing, it collided with a motor truck at level crossing gate No. 59/C resulting in the truck being smashed due to carelessness on the part of Gateman.	Provision of gate lamps at this level crossing.	Gate lamps provided.
50.	On 14-4-53 at Chunar station wagon No. 74931 on 174 Dn working goods derailed during shunting due to uneven balance caused during transit of the two trucks jointly loaded with rails.	The loading of rails jointly on two trucks should be stopped.	Since implemented.
51.	On 1-5-53 between Baddowal and Ludhiana stations, a Military motor truck No. 498994 loaded with petrol drums while crossing the Railway track at the canal level crossing at mile 3/3 collided with engine of F36 Dn van and shunting goods. The Military truck got entangled on the right buffer and the cow catcher and was dragged for about 960 feet. It immediate caught fire and as a result of which one of its occupants died and two Military-men sustained grievous injuries. It happened due to lack of vigilance on the part of the Military truck driver.	The leaves of the level crossing are in an askew position and as such even when the gates are closed the red discs on the gates are visible from the foot-plate of down approaching train indicating that the gates are open. Canal authorities should be asked to shift the position of the gate so that they are at right angles to the level crossing in order to obviate any conflicting indication to the driver of the down approaching train.	The canal authorities have been approached to fix the level crossing gates parallel to the Railway line at the cost of the canal department.

Serial No.	Particulars of accidents	Particulars of recommendations made	Remarks of railways about implementation
52.	On 6-5-53 in Tapri station yard the engine of 310 Dn Mussoorie Express while running through and passing the manned 'C' class level crossing gate No. 83 collided with the rear portion of a bullock crart due to carelessness on the part of the gateman in not closing the gate.	1. Provision of extra gate lamps as reserves at all level crossing gates.	1. Arrangments have been made to provide spare gate lamps.
		2. Provision of gateman permanently, as P/Man who was looking after this gate from ground frame 'A' cannot do so because of its replacement by a cabin from which it cannot be watched properly.	2. A separate gateman to manthe gate has been provided.
		3. Arrangements to be made to get the gate lamps repaired at the station instead of sending them to Engineering workshops.	3. Necessary instructions have been issued.
53.	On 28-5-53 at Meerut City station yard the tender of engine of 1 DSU-passenger derailed of all tender wheels due to neglect in maintenance.	In cases of reasonable doubt in sound of any tyre that wheel should not be a allowed to remain in serve. However, where slight difference in sound is noticed the wheel may be allowed to run, if necessary, and the following instructions are to be complied :—	Action will be taken.
		(*i*) A stencilled plate to be stopped halfway in a manner that when placed radially on the dull sounding wheel it bears both on the tyre and wheel centre.	
		(*ii*) Five radial lines should be marked equidistance on the circumference.	
		(*iii*) That these markings should be rejuvenated at time of A schedule, if necessary.	
		(*iv*) After each trip driver and examining Fitters should examine and report any misalignment in marking on which F.O. should personally examine to ensure the safe running of the dull sounding wheel.	
54.	On 2-8-53 at Jakhal station N. Ry. JJ3550 derailed near points No. 33 due to the points having been reversed under the moving wheels.	(1) Mechanical arrangements to be adopted to prevent key locked rod coupled points and trap points 1—1 from being operated unless point No. 33 of 'C' cabin are set for line No. 1.	Instructions in this connection with locking of facing points are being issued.
		(2) Adequate lighting arrangements to be made for the yard.	No action taken as yet.

Serial No.	Particulars of accidents	Particulars of recommendations made	Remarks of railways about implementation
55.	On 29-8-53 at Keroda station when the train No. 2 JRD Mixed was entering three wagons derailed and capsized and two wagons derailed due to breakage of the adjustment rod of engine No. 116 PS which got entangled into the points.	Broad lines of instructions in respect of repairing and fitting engine and vehicle parts should be issued and hung up at the repairing sheds and shops and should be transalted and explained to all concerned by the foreman or the incharge as the case may be.	Senior and experienced fitters will be given these jobs in future and before fitting the brakerods they will be thoroughly examined in all respects.
56.	On 11-10-53 between Utraitia and Dil khusha cabin wagon No. 28768 on train No. Up Gaziabad Special Goods derailed due to breakage of journal.	It is recommended that the breakdown crane should always be available with relief train.	A separate crane is being asked for, to implement these recommendations.
57.	On 29-10-53 at Jind station an averted collision between Dn. Jind pilot goods and five wagons took place due to failure on the part of station staff.	1. During the course of enquiry it was revealed that (i) there is no source for Asstt. Station Master Jind to satisfy himself about the correct setting of points except by observing the points indicator which in large yard are not possible and distinguished. System of exchanging of private numbers between Asstt. Station Master and Pointsman may be introduced.	1. Necessary instructions have been issued and these will be incorporated in the Working Rules of Jind Station.
		2. Number of Washington lamps be increased.	2. No action.
58.	On 19-11-53 between Solon and Solon Brewery stations while 9 KS Passenger was passing tunnel No. 39 TR No. 455 derailed at the mouth of the tunnel.	Coaching stock turned out from Shops after periodical overhaul should be jointly checked by Electric Foreman (shops) and electrical Chargeman and joint certificate recorded.	Action is being taken.
59.	On 19-11-53 between Pehowa Road and Kaithal stations, engine of 2 JNK passenger side collided with a private road motor truck at 'B' class level crossing due to failure of Gateman in not closing the gates.	In view of the curve of 6000 ft. radious at a distance of only 486 ft. before approaching the level crossing gate and in consequence of acute angle 37 which the road makes with the railway track restricting the range of visibility for the Railway drivers and the road users respectively and also in consequence of heavy quantum of the road traffic provision of a stop signal to be controlled by treble lock arrangements with one lever locking the signal with the two gate leaves in the up direction is recommended. A similar provision is down direction has not been recommended due to the fact that Kaithal is a watering station for all trains and	Case not yet finalised.

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		when a train starts from Kaithal after stopping there is a little possibility for the gateman not being able to close the gates in time in view of engine whistle and the distance from the station. 2. Duty list of Gatekeeper as required under G.R. 172 (b) be provided. 3. Certificate of having qualified in the duties of Gatekeeper should also be issued to Gatekeeper of Engineering Branch as is done in case of traffic Gateman.	
		(d) *North-Eastern Railway*	
60.	On 17-1-53 between Rangtong and Chunbhatti Dummy Truck on 37 Up Goods capsized and one truck derailed due to irregular loading.	1. When long rails of 30 ft. and above are loaded 2PTS with side stanchions should be used taking into account that brake stanchions are at the opposite ends. 2. When the rails are moved by PTS one responsible man not below the rank of P.W. Mistry should accompany the train and check up loads at reversed loops upto destination. 3. The Jamadar of the train should see that unauthorised persons are not allowed to travel.	Instructions issued in terms of recommendations.
61.	On 9-2-53 at Bareilly Junction 156 Dn. passenger entered in line No. 3 instead of line No. 1 blocked by a parcel van due to wrong setting of points.	Braeilly Junction (M.G.) yard should be fully interlocked.	Matter under examination.
62.	On 15-2-53 at Bhojeepura while 8 Dn. Nainital Express was entering the yard its engine derailed and capsized and three coaches derailed due to (i) defective track there being slight gap between the switch and the stock rail on account of some obstruction between the two and (ii) excessive speed.	A check of the points locking bolts and cotters revealed that there was hardly any supervision exercised over the cleanliness of the points and maintenance of the cotters. It is suggested, therefore, that all non-interlocked points be checked by the Station Master in regard to their cleanliness and in respect of split in points after padlocking the cotters. For this purpose adequate quantity of graphite powder should be supplied to each station. The maintenance of points and the cotter will be the personal responsibility of the Station Master.	Matter under reference.

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		It also appeared to us that the cotters supplied by the Engineering Department are not to any standard drawing but are manufactured roughly by the local blacksmith. We should, however, suggest that instead of cotters, clamps should be provided in order to ensure safety.	
63	On 21-2-53 between Fakiragram and Chantara five wagons of AP2 Dn Goods derailed and capsized due to uneven loading and excessive speed over the diversion.	If dead slow means speed of less than 5 miles the Committee recommends that the train be piloted over the restricted portion.	Action is being taken.
64	On 5-3-53 at Jakhala Bandha while 352 Dn. Mixed was performing shunting one wagon derailed due to obstruction caused by gunny bags stocked on the platform.	(*i*) A circular be issued to stations that on no account the station should be left unattended by the Station Master on duty.	Action is being taken.
		(*ii*) The P. Way Ministry may be provided with some means of transport to attend promptly when an emergency of this nature arises.	
65	On 8-3-53 between Pandu and Gauhati Up light engine No. 370 collided with a motor lorry resulting into derailment and capsizing of the engine tender and capsizing of motor lorry due to level crossing gate not closed by the Gateman.	(*i*) From the recent census, of road traffic taken shortly after the accident, it is recommended that level crossing gate should be interlocked and upgraded to 'B' class.	The Administration have given no remarks about implementation.
		(*ii*) In view of the fact that engines are regularly working tender foremost between Pandu and Gauhati and passing through a densely populated area, it is recommended that such engines be fitted with additional head light and cow catchers on the tender.	
66	On 9-3-53 at Muzaffarpur while 21 Up was standing on line No. 3, 22 Down entered on the same line and collided due to driver of 22 Dn. entered against the signal.	1. Electric repeater be provided for the down outer signal as the line takes a curve and the outer singal cannot be seen properly.	A complete change of Interlocking arrangements existing in all junction stations in this zone is under consideration.
		2. Better indication should be given to the driver of a train as to the route which he is to take.	

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67	On 9-3-53 between Rangia and Gograpur ASTE/Sarbhog motor trolly derailed and capsized due to placement of a boulder on the table of the rail.	The police must be asked to redouble their efforts and vigilance to put down such lawlessness jeopardizing the safety of passengers travelling on the section.	D.I.G. of police, Shillong and S.R.P. Haflong have been requested to take necessary action.
68	On 10-3-53 between Lower Haflong and Mahur one vehicle of M.T. 2 train derailed of two wheels due to improper loading of girders and rails.	It is seen from the evidence of A.E.N. Haflong that the engineering department frequently resort to the practice of moving the long girders and rails on KLs. This practice should be stopped and when extra long girders and rails which cannot be accommodated in KL or FT are to be moved either BFT of BFR or any other suitable bogie stock should be used or the proper dummy trucks should be requisitioned.	Action is being taken.
		2. Loading of long girders and rails on two KLs should only be done in case of extra emergency and under the personal supervision of an officer and movement should be done at dead slow speed.	
69	On 13-3-53 between Ambari Falakata and Siliguri Jn. 287 Up Passenger collided with a loaded wagon on bridge. As a result the wagon dropped into the river and the engine capsized due to wagon No. NEC 13671 being blown away be storm from Siliguri town station yard blocking the main line on a curve where the collision took place with the train coming from the opposite direction.	1. The inspecting officers should take effective steps to put a stop to the unauthorised practice of changing duties of staff at hours which are not included in the authorised duty rosters.	1. Instructions have been issued to staff accordingly.
		2. The provision of GR 154 and SR thereto regarding using safety chains sprags or applying scotch blocks for preventing vehicles running away are not being followed by the staff concerned. This should also receive the attention of the inspecting officers.	2. Instructions have been issued accordingly.
		3. The staff were not conversant with the working rules of the station. Steps should be taken by the Railway Administration to put this matter right.	3. All RTSs andD TSs have been instructed to take step to ensure that staff are conversant with the Station Working Rules and that inspecting staff test the station staff to find out if they are fully conversant with the Working Rules.
		4. Guard of 287 Up gave false and unreliable statement. The Railway Administration should take such action as they deem fit in this case.	4. Increment of the Guard withheld for one year with commulative effect and he had been sent for a Refresher course in the staff training school.

Serial No.	Particulars of accidents	Particulars of recommendations made	Remarks of Railways about implementation
70	On 23-3-53 at Bareilly City three wagons of 733 Up Goods derailed and capsized due to open swing door of a truck struck against the lever of points No. 15 and due to facing points not looked and clamped.	On examination it was found that this truck No. KC 94780 with both sides swing door open infringed the maximum running dimension laid down in C.R. Part III Rule 57. This aspect of design needs further investigation by competent authority.	The matter is under investigation by the Mechanical Department.
71	On 6-4-53 between Barpata and Sarupata one wagon of PA/1 Goods train derailed due to depression caused by slackness in track.	Adequate provision for rest giver gang.	Administration has given no remarks about implementation.
72	On 7-4-53 at Siliguri Jn. one motor bus in attempting to cross Railway line collided with shunting engine No. 555 resulting in its getting capsized.	1. As there is a heavy road traffic at the level crossing the road should either be diverted and the level crossing taken further up or an overbridge should be provided. 2. Failing this some sort of interlocking arrangement should be made so that shunting signals can be lowered if the gates are closed.	Administration has given no remarks about implementation.
73	On 10-4-53 at Aunrihar junction while 73 Up Passenger train was started door of one bogie III dashed with a wagon standing on another line due to the wagon standing fouling the line from which the train was leaving.	1. All guards should be advised that they should personally examine the trains to see that doors of the carriages are closed. 2. Yard staff should be cautioned against placing of vehicles beyond fouling marks.	Instructions are accordingly issued.
74	On 13-4-53 between Cinnamara and Jorhat one motor car in its attempt to cross the Railway line at an unmanned level crossing in face of the approaching train No. 362 Dn. Passenger collided with engine.	Stop boards at either side of the level crossing to warn the car drivers to stop and proceed after verifying that no train is approaching.	Administraction has given no remarks about implementation.
75	On 25-4-53 between Sarnath and Kadipur while 374 Dn. Passenger was on run 5 coaches capsized and two derailed due to Gangman employed on the cleaning and oiling of fish plates, bolts, nuts etc., having left the joint open.	Detailed instructions should be issued and the Railway Administration should ensure that the rules for the work of cleaning and oiling fish plates and bolts are understood and obeyed by the Executive officials concerned. It should also be ensured that P.W. Is and S.P.W. Is are not allowed to introduce modifications in the details of work except in case of real danger to traffic.	Detailed instructions regarding the procedure for oiling fish plates have been issued.

Serial No.	Particulars of accidents	Particulars of recommendations made	Remarks of Railways about implementation
76	On 29-4-53 between Kichha and Behari while 307 Up Nainital Express was on run its engine with a dining car and three other coaches derailed and capsized due to sabotage.	1. Anti-sabotage devices should be extended to sections other than the high banks and approaches of large bridges in areas which are particularly liable to sabotage.	1. Enquiries are being made from other Railways as to the extent they have adopted anti-sabotage devices on their Railways and the policy now followed on this Railway will then be revised if found necessary. The question of fixing responsibility on local inhabitants is also under consideration of the State Government.
		2. The question of patrolling the various sections of the Railway with particular reference to Bhojeepura-Kathgodam section may be gone into by the Railway and the Railway Police and patrolling introduced wherever necessary.	2. Night patrolling on trollies by Railway officials between Kichha and Baheri was arranged. Police were also contacted regarding the provision of police patrol from 29-5-53 on the affected section.
77	On 20-5-53 between Haiyaghat and Kishanpur 338 Dn. Passenger parted due to breakage of buffer.	The Mechanical Department should investigate the desirability of forge welding passenger coach buffers.	Under reference.
78	On 6-6-53 between Munderwa and Khalilabad Down P.W.D. Special derailed due to driver running over an unsecured rail disregarding the banner flag.	1. P. W. Is while undertaking the opening of track between stations should be provided with a field telephone so that they may keep close contact with the control and get any other information required for safe working. P.W.Is and S.P.W.Is should exchange private numbers with the control in token of their having exchanged necessary information.	1. Exchange of private numbers was not considered necessary.
		2. The orders issued for all goods trains to be worked with 5 per cent. vacuumed vehicles should be implemented quickly in the interest of safe working.	2. D.T.Ss and M.D.Es. asked to implement the orders already issued.
		3. No goods train should work without properly equipped brakevan. The practice of using III class as brakevan should immediately be stopped.	3. Orders have been issued accordingly.
79	On 16-6-53 between Semapur and Katihar 442 Dn. Parcel collided with 807 Up Goods due to Driver of 442 Dn. started his train from Semapur without proper authority.	1. Long working hours should be avoided in the case of passenger train drivers and other running staff.	An estimate for the work on all stations between Lucknow and Katihar has been prepared and awaiting sanction.
		2. The estimate of work for providing Standard III Interlocking at all stations between Lucknow and Katihar may be sanctioned and commenced as early as possible.	

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		3. The existing parcel passenger mixed trains carrying passengers should be worked with vacuum brakes connected up on the front portion which should be marshalled in the following order :— (*a*) Engine, (*b*) W.D., bogie parcel vans fitted with active vacuum brake apparatus in working order, (*c*) Passenger coaches.	Parcel trains are now being marshalled in the order as instructed. It has been pointed out that provision of any chord or bell arrangement with hanging wires or springs would be extremely difficuet to maintain. Instead parcel trains 441 and 442 Dn. are being worked with the maximum number of vehicles having vacuum pipes connected up.
		4. Where vacuum braked vehicles are not available for the front portion piped vehicles may be provided failing this unpiped vehicles may be attached next to the engine subject to the condition that some communication must be provided between the passengers and drivers *e.g.*, by means of a chord or bell arrangement.	
		5. Suitable rule may be framed fixing the responsibility for connecting up hose-pipe between the engine and the to rain.	The coupling of the engine (for which the driver is responsible according to G.R. 116-1) includes coupling of the hose pipe and this is being made clear by an extentive order.
		6. The absence of a First Aid box on trains which is not uncommon due to these boxes being out of stock at starting stations should be looked into.	The supply of First Aid boxes is being increased so as to make them a part of the personal equipment of the Guard of passenger carrying trains.
80	On 25-6-53 at Bashari 625 Up Mixed derailed of 8 tender wheels due to wrong setting of points and due to the train being backed without signal shown to the driver.	The keys of different passenger points looking device be marked in figures according to the plan of the yard. The present keys have markings on them "Up Main" and Dn. Main etc. A proper diagram of the yard should be printed in the key box.	Action is being taken.
81	On 28-6-53 between Kamalapur and Khairabad while AM 22 Dn. Goods Special was on run several wagons derailed and capsized due to breakage of journal of wagon due to hot axle as a result of overloading.	1. All wagons should have a loading line marked inside. 2. Importance of the orders already existing to the effect that while a train is running through their stations the A.S.Ms. must vigilantly look out for a smoking axle or the whistling sound from the hot axle should be emphasized.	The matter is under reference.

Serial No.	Particulars of accidents	Particulars of recommendations made	Remarks of Railways about implementation
82	On 29-6-53 at Maskanwa 311 Up Passenger derailed.	The responsibility of headlight examination should clearly be fixed with a department. It is recommended that the electric headlight compete should be given under the charge of the Electrical Department.	The Administration has given no remarks about implementation.
83	On 10-7-53 at Udalguri engine of 634 Dn. Mixed derailed during shunting due to reversion of coupled points before movement had completed.	G.R. 45 should be modified to make it applicable to points and trap indicators also.	Action being taken.
84	On 15-7-53 between Bareilly City and Ramganga Bridge one loaded wagon of BKJ Down Goods derailed of one pair of wheels and one empty wagon capsized due to breakage of hook and buffer shank.	1. At the site of accident no telegraph posts are available which resulted in delay of several hours to ascertain the mileage posts at which the accident had taken place. High rail posts should be provided at this site to indicate the mileage particulars and the number of posts per mile should be the usual number that is provided elsewhere. 2. Telephone wires should also be provided at this site.	Matter under reference.
85	On 23-7-53 between Jasoda and Kannauj 25 wagons of FC 2 Dn. Goods derailed due to some parts or the under gear of a wagon breaking.	1. A Circular should be issued warning all the drivers to make prompt report of the severe jerks felt by them at the next stopping station in writing for the imposition of necessary speed restriction for the safety of following trains and subsequent repairs of the track promptly. 2. Women should not be employed at level crossing gates as in consideration to their sex they cannot be insisted upon to stay in the night at the gate lodge. 3. To discourage witnesses giving false evidence a provision should be made in the rules for warning witnesses against giving false evidence drawing their attention to the consequences thereof which should be removal or dismissal from service or giving of false misleading statement to the committee should be included as one of the offences deemed to fall within the term misconduct in S. R. 3 of 1706 R.I.	Recommendations are under consideration.

Serial No.	Particulars of accidents	Particulars of recommendations made	Remarks about of Railways implementation
86	On 19-8-53 between Kashipur and Ramnagar some wagons of down shuttle goods derailed and capsized due to breakage of spring plate.	The down gradient at the spot of derailment towards Kashipur side is 1 in 150 and the Committee was of the opinion that it would be better in the interest of safety to introduce 10 per cent, vacuum on the trains on Kashipur-Ramnagar section.	No remarks about implementation by the Administration.
87	On 21-8-53 at Sahjanwa while Down Workman Special was passing through the station yard one carriage derailed and capsized and brakevan derailed due to breakage of brake blocks.	1. Clerks and workmen train should be run fully vacuumed. 2. Proper train examining facilities must be provided at Gorakhpur. 3. The blow pipe of B.D. train must in no circumstances be removed for use in the shed. The shed should be provided with separate equipment. 4. The siren should at least have a range of two miles radius. 5. The essential supervisory staff at Gorakhpur as L.F., SS, Hd. TXR, PWI and T.I. should be provided with suitable quarters close to their place of work and in any case not farther than 10 minutes walk from the station.	No remarks about implementation by the Administration.
88	On 19-9-53 between Thakurganj and Taibpur one empty wagon of 904 Dn. goods derailed due to displacement of bearing brass box as a result of reduction of vertical pressure on the wheel.	In view of the frequent derailments caused by this particular type of 6-wheeled wagon the Committee feel that some special instructions be issued to TXRs for checking if a spring is taking some load or not. TXRs should also give more attention to this type of wagons before passing them as fit to run.	Matter under reference.
89	On 23-9-53 between Galgalia and Thakurganj plough van of B.T. No. 2 derailed of four wheels due to irregular unloading by opening more than one truck at a time.	The Engineering department should issue clear instructions to the men supervising the unloading of ballast with respect to the opening of the doors of the hopper trucks.	Under reference.
90	On 25-9-53 between Govindnagar and Tinich engine and five wagons of 935 Up Goods derailed and capsized due to driver running over a gap in the rails which was left unconnected during the squaring of joints	1. S.R. 368/2 and 3 of the *ex*-Assam Railway G.S. Rules should be adopted on the *ex*-O.T. section also. 2. A doubt has been raised as to whether 1/2 a mile would be an adequate	Recommendations are under examination.

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	but was protected as prescribed in rules.	braking distance for YG engine working 5% vacuumed goods trains. Trials should be conducted for deciding the adequate distance. 3. A greater percentage of vacuum fitted wagons should be provided on goods trains and progress should be made gradually until it is possible to run fully-vacuumed goods trains. 4. The recommendation for provision of field telephone to P. Way subordinates while doing extensive maintenance work on the track made in connection with a similar accident should be implemented without delay. 5. Instructions should be issued that specific mileages for which caution orders to be issued should be mentioned in detail in the diaries maintained by station Masters to ensure that the Station Master who takes over will not omit to issue any one of them. Further Assistant Station Master should be asked to have a caution order board hung on the relevant block instrument as a visual reminder whenever they have to issue a caution order for the section to which the block instrument pertains. 6. The protection of the site was done in accordance with the existing rules embodied in the permanent-way manual of the B. & N. W. Rilway. It is considered that the instructions regarding placing of danger signals supplemented by detonators do not adequately provide for blind curves or falling gradients. It is recommended that under such circumstances the distances specified in the above-mentioned rules at which the first danger signals are placed should be increased by 1/4 mile.	

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91	On 30-9-53 between Naksalbari and Boghdogra KS 1 Up Goods parted due to working out of hook pin.	Hook pins are secured with nut and split pin. Split pins are liable to shear and split pins alone do not protect the pin from working out.	Action is being **taken.**
92	On 30-9-53 between Banarhat and Binaguri one motor lorry in its attempt to cross the level crossing in face of approaching 305 Up Express collided with the train engine and capsized.	1. The case for upgrading the level crossing from 'C' class unmanned to manned level crossing may be examined by the engineering department. 2. P.W.D. should in addition to the existing caution boards indicating the level crossing also prescribed speed of 10 m.p.h. when approaching and passing the level crossing. Boards to this effect may be put by them along with the existing caution boards.	Action is **being taken.**
93	On 25-11-53 at Haflong Hill 711 Up Mixed parted due to negligence of driver in starting the train with insufficient vacuum which did not release the wheels of last two carriages.	1. The driver had stated that he did not receive signals by waving of the green flag for starting of his train but he started on being signalled by Assistant Station Master by waiving of hand. This is objectionable. The signals on hill sections being of different type than those of the main line, the Mechanical Department to see that the drivers who are to be selected for working on hill section have got the full knowledge of following the signals at the respective stations as provided for in the Working Rules. 2. The drivers should have sufficient experience before they are selected for working in the Hill section. Before they are certified to be fit for Hill section working, they should satisfy the Mechanical Department that they have got full knowledge of peculiar applications which they have to face in steep gradient etc., over the Hill section.	No remarks about implementation by Administration.
94	On 9-12-53 at Barauni Jn. 394 Down was admitted on line No. 7 which was blocked	Passenger reception lines should be track-circuited to give usual indication to Assistant Station Master and Cabinman.	Under examination.

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95	On 20-12-53 at Savan while 315 Up was passing the trailing points, two third class bogies derailed and one capsized due to reversal of points which were originally set for wrong direction.	Non-interlocked junction stations be equipped with at least Standard I Interlocking at an early date.	Under examination.
96	On 8-1-54 between Nagrakata and Karron one wagon of up parcel express derailed due to breakage of journal.	Correct journal diametre should be stencilled on the sole bar during POH. That will help TXRs during repacking of wagons.	Under consideration.
97	On 10-1-54 between Gulma and Sinok 4 wagons of 923 Up Goods derailed and capsized due to obstruction caused by a bale of cloth dropped by some person from a wagon	1. The Committee recommends greater vigilance at Siliguri Junction particularly by Watch & Ward staff. 2. Goods trains running at night between Siliguri Junction and Alipur Duar be sent with R.P.P. escorts.	Action is being taken.
		(e) Southern Railway.	
98	On 12-1-53 at Samalkot on arrival of No. 2 Mail it was noticed that smoke was coming out of the underframe of SR FCS 222, the 9th vehicle from the engine due to the gradual charring up of the deteriorated wood owing to the heat radiated by the lamp resistance coils and lights being 'On'.	That all the switch gear in the underframe of coaches should be mounted only on M.S. brackets or sheets. If, for any reason, the lamp resistance is to be mounted on wooden boards, they should be insulated from the same or mounted so as to leave sufficient air space.	The matter was looked into and all coaches are now provided with M.S. sheets on which all the switch gears are mounted on the underframe.
99	On 18-1-53 between Ghotgewadi and Caranzol (M.G.) one pair of wheels or MSM CA 4671 on 469 Goods derailed due to sudden application of brakes by the Driver of the leading engine, while approaching the Up Outer at Caranzol.	An arrangement to be introduced under which each goods train is checked by the Guard and station staff before starting the train from a station to ensure that the train is intact and safe to proceed further	Necessary instructions were issued to staff concerned in the matter *vide* D.T.S. Hubli letter No. TA.4/A 10 and C3/53 of 27-1-53.
100	On 24-1-53 between Tirupati and Renigunta (M.G.) No. 18 hrs. extra goods ran into a bullock cart at the level crossing due to lack of vigilance on the part of the Gateman.	Provision of bell communication for the level crossing gate with Renigunta to warn the gateman in time for the closure of the gates.	The census of the road traffic is being taken and the matter is on hand.
101	On 2-2-53 at Trichinopoly Goods Yard the shunting engine was drawn ahead, while No. 1308 goods was being received on Road 8 resulting in an averted collision.	1. The order book is to be sent to the shunting Jamadar a second time giving the actual arrival of the trains or	The second alternative was accepted and the provison of 2 plungers, one on the Northern end and one on South end, was suggested by C.S. T. E. C. S. T. E. was asked to take the matter on hand.

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		2. to provide a fixed signal to control all movements from road 11 or 12 and those adjacent.	
102	On 12-2-53 at Amargoal (M.G.) while shunting was being performed at the rear of a Down Goods train with the train engine 23 vehicles forming the entire train with the exception of the brake-van rolled away from the Station in the direction of Hubli, who receiving the vehicles running away signal promptly reset the down top points (set for the departure of No. 11 up passenger) to an unoccupied road "E" and as the trap points at the farther end of this Road were set to the derailing position the leading 3 vehicles derailed and capsized and 8 vehicles in rear got derailed. A collision with a passenger train was luckily averted.	That the system of Refresher Course for Drivers, as it existed in ex. S. I., may be extended to ex-M. S. M. and M. S. portions of the Southern Railway.	Under reference to Personnel Branch.
103	On 20-2-53 at Nidubrolu during the shunting of No. 418 Goods with engine XD 6622, the Driver passed the shunt signal C2(*a*) at danger resulting in the derailment of all left side wheels and two bissel wheels of the engine.	Nidubrolu staton is directionally worked after the introduction of the 2nd loop *i.e.*, all down trains can be received on main line and the 2nd line only, up trains on main and 1st loop. All three lines at Nidubrolu should be completely signalled in view of the above which lead to the derailment.	Decided to allow the question of complete signalling of all three lines to lie over the present.
104	On 22-2-53 between Erode and Cauvery No. 728 Passenger passed the up gate signal at mile B242/17—18 by 2 engines and 1½ bogie length due to signal being put back to danger by a passenger in the face of the approaching train.	A 32 feet signal above the rail level be erected 125 feet in rear of the existing signal (in place of the present one which is 18 feet above rail level) to give Drivers cautious visibility (2) the 2 lever frame operating the up and down gate signals be moved from across the road to a place in front of the gate lodge to avoid trespassers.	Under correspondence with C. S. T. E. for implementing the recommendation.
105	On 23-2-53 at Tuni while No. 406 Up Goods was standing on the loop line fouling in the direction of the approaching train, all signals were cleared for the reception of R. C. 39 on the main line. The driver of the	1. A suitable correction is to be issued to the S.S. W. O. of Tuni defining the station section. 2. Provision of isolation on the loop line.	Agreed and correction memo was issued. Agreed to provide trap-switches for the purpose of isolation.

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	Goods train exhibited danger signals to the incoming train and the rail car pulled up in time.		
106	On 2-3-53 at Vikravandi (M.G.) No. 11 Passenger passed the Down Outer in the "ON" position due to pointsman releasing the signal to "ON" in the face of the approaching train.	A lock up key should be, provided with a positive lock (*i.e.* the key being out proves the locking).	This has been accepted and arrangement is being made to make the locking action of the S.M's key more positive at Vikravandi and other stations equipped with double wire multiple aspect Semaphore signalling.
107	On 13-4-53 at Guntakal (M. G.) No. 602 Down goods was received on Road 'D' while this road was occupied by two bogie coaches.	(*i*) An amendment to be issued to the SSWOS laying down definite responsibility of the Cabin A.S.Ms.	(*i*) This has been done.
		(*ii*) the passenger reception and despatch lines are to be track circuited with usual indications in cabines.	(*ii*) C. S. T. E. has furnished the cost for track circuiting the M.G. platform side and is under consideration.
		(*iii*) pending item (*ii*), duty A.S.Ms are to be made responsible for ensuring that the platform lines are clear and exchange private numbers with cabin A.S.Ms.	(*iii*) Interim instructions to this effect were issued by the R.T.S.
108	On 14-4-53 between Belgaum and Desur (M.G.) while No. 112 Dn express was on the run leading pair of wheels of the first bogie of the tender of engine YC 559 derailed due to defect in cross level of track combined with defective action of the springing of the tender.	It is suggested that an investigation be made into the springing of YC tender in cases where the springs are knocking or binding excessively against equalising beams.	Pending C.M.E's remarks.
109	On 27-4-53 between Golhalli and Chik Banavar while No. 912 Down passenger was passing, M. S., EVK. 450 trailing last on the train, got derailed due to the wheels of the empty EVK. 450 suddenly jumping off the rails due to the excessive side oscillations caused by the excessive side play between the journal and brasses and between axle guards and axle boxes.	The question of attachment of 4 wheelers on fast trains on M. G. to be examined.	Under correspondence with the Research Directorate, Lucknow.
110	On 12-4-53 at Madras Chetpat (M. G.) while ES. 156 was leaving the cow-catcher of the unit hit against a stone placed on the track by some mischievous person.	It is suggested that the track be protected on both sides by unclimbable walls between Madras Chetpat and Egmore.	Accepted and work on hand.

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111	On 16-4-53 at Madras Chetpat (M. G.) while E. 182 was leaving the cow-catcher of the unit came in contact with a stone about one foot in length placed on the right side of the track at mile 3/7-4 by some mischievous person.	It is suggested that the track by protected on both sides by the unclimbable walls between Chetpat and Egmore. This was already suggested in reference to a similar accident at the same locality on 12-4-53.	This is recommended by R.T.S./TPJ also.
112	On 8-4-53 between Mudigubba and Malaka Vemala (M.G.) while No. 270 Mixed was passing the driver noticed fire at the left hand trailing end top corner of S. R. ETTPQ 1664 which was next to his engine.	It is suggested to avoid a recurrence the drain pipes be extended to the level of the roof so that there would not be any possibility of sparks coming in contact with any wood work while passing through the drains.	The design of the drain pipe referred to is obsolute and as and when the coaches go into shops these are modified in the sense that the gutters are removed and a small loading is provided at the end of the roof. The modification suggested, therefore, does not arise.
113	On 4-4-53 at Tondiarpet Oil Siding while wagon MSM C. 6503 was hand shunted on No. 2 Bitumen siding inside the B. O. Depot, the right, leading wheel mounted the outside rail of the curve at a rail joint and the leading pair of wheels derailed due to the ineffective functioning of the dogspiked on the outside of the curve near a rail joint.	The dogspikes should invariably be provided on the outer side of the outside rails on curves even on less important sidings.	Agreed to.
114	On 4-5-53 between Vaniyambadi and Kettandapatti No. 513 Express ran into motor lorry No. 985 at the level crossing gate at mile 123/15 due to negligence of lorry driver.	The provision of bell communication to the level crossing from Vaniyambadi.	Accepted.
115	On 10-5-53 between Sonaulini and Collem (M.G.) while No. 2867 Goods was passing one pair of wheels of MSM 0254 derailed due to empty MSC 0254 being the lightest vehicle on the train.	The Committee suggested that the Weights that are put on to the Brake lever handless of wagons on the Braganza Ghats be redesigned in such a manner that they will not drup off the levers even if the levers are subjected to violent oscillations.	A modified type of brake lever weights was tested and found to be satisfactory in service and the same has now been made standard.
116	On 8-5-53 at Caranzol (M.G.) while No. 2859 Goods was started from the loop line a heavy jerk was noticed by the Driver. The train came to a stop. It was then noticed that WC 89 and BAXC 23038 had derailed and canted due to the brake lever weight	The Committee suggested that the weights that are put on to brake lever hangers of the wagons on the Braganza ghats to be redesigned in such a manner that they will not drop off even if the levers are subjected to heavy oscillations.	C. M. E. had advised that the modified type of brake lever weights have been found to be satisfactory in service and same has now been standardised.

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	of BAXC 23038 dropping off from the lever and coming in contact with the 9th vehicle and thereby causing it to mount and to get derailed.		
117	On 26-5-53 at Basin Bridge while a Down light engine was proceeding to Washermenpet from Road 'E' at Basin Bridge with signals correctly lowered an up local passenger which had left Washermenpet passed the Up Home Signal at Basin Bridge in the 'ON' position and collided head on with the light engine at the North end of the platform.	1. Some special device may be adopted *vi*· Electrical control from both the stations so as to eliminate such risks. 2. It was understood in the enquiry by the G. I. R. that the joint wire device according to drawing No. M. 318 MSM. R. fails occasionally as has been the case on the back wire of the Up Outer of Basin Bridge station. These failures may be investigated and if such failures are found to be numerous an improved design may be adopted.	1. Action has been taken. The alterations to two such signals were already completed. The work relating to 7 more is on hand. 2. In all future new works alterations and replacement the standard I. R. S. type of sleeve joint will be used.
118	On 26-5-53 between Nidadavolu and Chagallu EVK 3792, the rearmost vehicle on 46 Janta Express derailed due to the vehicle being rearmost and lightly loaded and (2) variations in cross levels of the track.	Any unit parcel van or goods vehicle especially a light loaded one, is not to be attached in rear of Mail and Express trains.	This question has been referred to the Central Research Office, Lucknow by C.M.E/PER. The reply from Research Directorate is awaited.
119	On 7-6-53 at Devangere (M.G.) during shunting by train engine of No. 2932 Goods the engine derailed due to tilting of the rail caused by the lateral thrust on a curved track, by the flanges of the wheels of the heavy engine.	41-1/4 lbs. rails at sidings where heavier type of engines like YD classes have to perform shunting be replaced with at least 50 lbs. rails on a programmed basis.	No remarks regarding implementation by Administration,
120	On 13-6-53 between Mulacalacheruvu and Battulapuram when trains were being worked on Rules for working of trains as laid down for "Total Interruption" working No. 1144 mixed was started from Mulacalacheruvu wrongly on a 'Proceed Certificate' and No. 3303 Goods from Battulapuram resulting in a head-on collision due to failure on the part of A. S. M. for wrongly despatching No. 1144 Mixed from Mulacalacheruvu.	1. Adoption of 'Pilot Guard' system for trains working in totally interrupted block sections.	Instructions on these lines necessarily have to wait until the New General Rules actually come into force.
		(a) Alternatively to modify SR 115 (B) (iii).	Accepted and necessary introduction has been issued.
		(b) to enter up all trains in the Train Register in the total interruption period to enble the S. M. to have a correct position of the train running.	Agreed to and necessary instructions have been issued.
		In the "next Train Advice Memo" provision should be made to enter up the time of departure of the train by the guard so as to	The advantage gained is not apparent.

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		complete the train entries at the other end of the Block section.	
		(c) A rule should be introduced to the effect that the 'Proceed Certificate' should not be prepared earlier than necessary.	Necessary (interim) instructions have been issued.
		(d) (i) Three separate books should be issued each containing only one category of form and the pages should be serially numbered to prevent any malpractice.	Pending the new General Rules coming into fore it is not necessary to withdraw the existing 'Book' and to replace it by 3 separate books. Necessary action would be taken.
		(ii) That message of Block failure should be expeditiously transmitted on its due priority. Introduction of some sort of control system connecting at least important intermediate-station in the Pakala-Dharmaram section.	The question of introducing control system on this section is provided for in the 1954-55 programme.
121	On 5-7-53 between Adarki and Wathar (M.G.) while No. 2 764 Goods was on the run it parted and the rear portion consisting of. 25 vehicles and coupled brake van rolled back into Adarki, entered the catch siding, resulting in all the vehicles, getting derailed, and capsized due to severe jerks caused by the engine wheels slipping badly.	1. The Committee feels that the catch siding has not been designed to completely check the speed of such runaway formation entering the sidings. A review be made of all catch sidings with a view to investigate the possibility of reclassifying them to adequately retard a runaway formation.	Receiving attention.
		2. It is also recommended that at least the first 200 ft. of all catch sidings be maintained to main line standard and the rest of the sidings to a good siding standard.	Receiving attention.
122	On 6-7-53 between Idapalli and Alwaye No. 566 Passenger while approaching the unmanned level crossing at mile 559/8-9 collided with the rear portion of a lorry which was crossing the level crossing.	As the level crossing has become important the Committee consider that either a road overbridge should be constructed on the spot or the level crossing should be converted into a manned level crossing gate.	Agreed to and necessary action is being taken.
		2. As an immediate measure the Committee suggest that road signs indicating the level crossing and road curve should be put up at adequate distances on either sides of the level crossing. Also at a distance of 40 feet on either side, a road sign should be put up requiring vehicles to 'stop' dead, look out and proceed.	A whistle board is provided at an adequate distance for trains in the up direction. One more whistle board is in the down direction till such time it is converted into a manned one. The road authorities were addressed to provide necessary road signs.

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123	On 28-7-53 between Meenakshipuram and Anamalai Road (M.G.) while No. 2634 Goods was on the run, it met with an accident as a result of which 3 vehicles capsized, 2 vehicles canted and the rear brakevan derailed due to the driver opening regulator abruptly while the brakes of the last brakevan were still on.	As no whistle signal has been prescribed for drivers to call for release of brakes from the guard or brakesman "a prolonged whistle" as prescribed under para 14, page 26 of the Special Instructions for working of train over the Ghats mentioned in the W.T.A. III may be prescribed in general.	Instructions issued pending issue of necessary correction slips.
124	On 29-7-53 while No. 2609 Goods was being divided between Kalpattichatram and Ayyalpur stations the rear portion of the train consisting of 18 vehicles rolled back to Kalapattichatram where they capsized at the trap switch on Road No. 2 due to failure in taking necessary precautions by the train staff in dividing the train.	Provision of catch siding at Trichy Junction end of Kalapattichatram station is recommended in view of the long and steep gradient.	Under consideration.
125	On 30-7-53 at Budalur (M.G.) while 621 Dn passenger was being received on Road No. 1 (main and platform line), No. 622 up arrived on the same line and was stopped short of No. 621 by about 437 feet, thus averted a collision.	1. Raising the height of Home signal 2. Blinding the platform electric lights.	Under consideration.
		3. Issuing instructions for dimming or putting out the head lights at crossing of trains to perevent glare obscuring the visibility of signals, and	Necessary provisions exist in Rule 143(b) (2) of General Rules.
		4. Relocating the lever frame to enable visibility of signals while operating.	It is considered sufficient if the S. M. satisfies himself about the aspects of the signals from the platform from opposite the lever frame.
126	On 2-7-53 between Mirahalli & Tumkur (M.G.) No. 903 up Express ran into the rear portion of a double bullock cart at unmanned level crossing due to the negligence of the driver of the cart.	The shrubs along the cutting should be cleared to give a better view of the vehicles on either side of the level crossing.	Shrubs cleared.
127	On 18-8-53 between Dudda and Hassan (M.G.) No. 1081 passenger ran into the rear portion of a double bullock cart at the manned level crossing due to gates not being closed against road traffic.	The gate lodges of 'A' class level crossing gates be provided with bell communication whenever they were within reasonable distance from the stations to warn the gateman of approaching trains well in advance.	Under consideration. Regional Officer's attention to Rly. Board's IRS(M)2 of 1928 (classification of and standard specification for level crossing) has been drawn and their remarks and recommendatons are awaited for necessary implementation where necessary.

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128	On 18-8-53 between Tuggali and Maddikera(M.G.) while No. 1022 Down passenger was running MS. EL. 202, the last vehicle in the train derailed due on breakage of the bolt of the left leading axle guard stay plate as a result of heavy oscillations on the run.	As this is a second case of derailment of a light unit vehicle attached in rear of a fast passenger train the Committee consider it inadvisable to attach light unit vehicles either an empty or lightly loaded in the rear of fast passenger trains on the Metre Gauge.	Matter receiving attention. The attachment of 4-wheeler units on fast passenger trains is under investigation by the C.M.E.-Under correspondence with Research Directorate, Lucknow.
129	On 21-8-1953 between Somidevipalli and Cumbum (M.G.) No. 1023 Passenger ran into a double bullock cart at the unmanned level crossing.	Level crossing is frequently used by country carts and there is also a bus service which passes over the level crossing. In view of this and in view of the poor visibility to the Drivers of approaching trains, reclassification of this level crossing and provision of gates and gatemen may be investigated.	The Regional Officers were advised to go into the question of reclassification of the level crossing and put up justification for the necessary provision of gateman and submit census of road traffic.
130	On 21-8-53 at Duggirala while No. 1718 Goods was started from the station, wagon EIR C 49320 loaded with timber mounted over a log which had dropped off from the wagon and derailed, due to wooden log not being properly secured.	It is observed that several timber loads are being received from the Central Railway incorrectly loaded. The loading is so bad as to endanger the safe running of trains. It is, therefore, suggested that the Central Railway authorities be addressed to give proper attention to loading timber in open wagons.	The Central Railway authorities have been addressed in the matter to avoid uneven loading and to issue suitable instructions to stations concerned on their Railway by the D.T.S. Bezwada.
131	On 24-8-53 between Walhe and Dondaj (M.G.) while No. 2751 Up Goods was on the run it parted between the 16th and 17th vehicles and the rear portion consisting of 16 vehicles and coupled brake van rolled back into Walhe and derailed in the snag dead end. The breakage was due to flaw, of the yoke buffer shank of wagon C-5548 and the derailment of the rear portion was caused due to negligence of the Guard.	As Walhe station is situated at the foot of a long falling gradient in the down direction the provision of a catch siding is suggested.	Remarks of the Regional Officers on this question awaited. —
132	On 28-8-53 at Coimbatore before No. 1973 Goods which was departing from there cleared the outermost trailing points, signals for the reception of No. 561 Express which was waiting at the outer was cleared, due to unauthorized operation of the S.M.'s control by the cabin Station Master. The express train passed the outer and pulled up in time between the Outer and Home signals.	(i) The Cabin Station Master be abolished and even the operation of the Block Instruments be given to the Duty S.M. (ii) That the Yard S.M. be authorised to give signals to start goods trains to start after ascertaining from the Guard of the train that he is ready and sending the token to the Driver.	Pending action awaiting Regional Officer's remarks.

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		(*iii*) That the Train Examining staff be authorrized to give a certificate in writing to the Guard before the Guard can take a train with defective gauge. (*iv*) That the Home signal levers are to be interlocked with the farthest trailing points.	
133	On 19-9-53 between Nittur and Sampige Road (M.G.) while No. 2807 Goods was on the run the 6th, 11th, 21st and 22nd vehicles from the engine derailed at mile 148 and dragged on up to mile 146/23 due to defective left leading spring of wagon MSM C5898 the 6th from the engine.	The Committee have noticed several cases of derailment during recent months on account of mechanical defects. The Committee recommend that the train examining arrangements should be tightened up. As a number of wagons coming from and via Hindupur are being detached at Yeswantpur and sent on to the main line, and as at present no arrangement for train examination at Yeswantpur exists, it is necessary that train examining arrangements are made at Yeswantpur at a very early date.	C. M. E's remarks are awaited and this question is under investigation.
134	On 14-10-53 at Guntur (M.G.) No. 1026 Down passenger was started from C Road, and after it travelled a distance of 1413 feet came to a stop 162 feet short of Light engine of No. 1131 which was standing on the main line clear of the Up Home signals and thus averted a collision.	1. Provision of a dise for shunt moves from B road at Guntur towards Nambur. 2. Glass cages with locking devices for cabins to secure metal tokens under lock and key by C.A.S.M.	Received attention.
135	On 15-10-53 between Kurichedu and Gundlakamma (M.G.) while No. 3164 Down goods was on the run the leading pair of wheels of wagon SRC 4244 derailed due to excessive and uneven loading of wagon.	It is felt that materials like sleepers, rails etc., should be kept loaded in a wagon permanently attached to the Breakdown special as is done in the Southern Region, so that no time is lost for loading them at the time of accident.	Under consideration to introduce similar arrangements as existing on the Trichinopoly Region, on the other regions also.
136	On 22-10-53 between Odur and Gudur while ballast train No. 1 was being pushed from Odur to the site of obstruction with brake van leading, the coupling of the brake van worked out and the brake van parted from the formation. This resulted in the rear portion bumping into the brake van. 7 coollies and the P.W.I. sustained injuries.	1. It is suggested that the Ballast train be provided with the First Aid Boxes. 2. It is also suggested that the Ballast train clerks should be definitely prohibited from exhibiting hand signals controlling the movement of ballast trains and the drivers of the ballast trains be instructed to accept no signals from any	Agreed to and the guard will be in charge of the First Aid Box. Instructions were issued by the C.E. that Ballast Train Clerks are prohibited from exhibiting signals.

Serial No.	Particulars of accidents	Particulars of recommen dations made	Remarks of railways about implementation
		person other than the guard for the movement of his train.	
137	On 25-10-53 between Vyasanakeri and Gunda Road (M.G.) while No. 1137 Mixed was on the run, wagon SRC 6577 derailed due to (*i*) absence of super elevation (*ii*) increased lateral movement of the wagon on the run, and (*iii*) uneven loading.	It is suggested that curve of 4° and more may be transitioned to enable the mate to maintain the correct alignment and superelevation	Instructions have been issued to implement the recommendation of the Committee.
138	On 28-10-53 between Nittur and Gubbi (M.G.) while No. 2904 Down goods was passing 21 wagons commencing from the 5th wagon from the engine derailed and capsized due to breakage of the left leading spring of wagon SIMC 66 due to an old flaw.	(*i*) Trains should be subjected to examination at Hindupur and Yeswantpur, which are not at present train examining stations. (*ii*) The Train examining staff at Bangalore to be strengthened by extra staff of 6 TX Rs and 37 Fitters to make the examination at Bangalore more intensive. (*iii*) Appointment of Train Examining staff at Harihar to carry out proper examination of all vehicles pressing through, proper time being allowed for the purpose. (*iv*) Since a number of accidents are reported to have occurred after the trains have travelled a considerable distance over falling gradient, and Drivers of non-vacuumed trains are suspected of not keeping their trains under their control, the committee suggested 'Brake Boards' with letter B be erected 1/4 of a mile ahead of a steep-long gradient as is in vogue on the S. I. Railway.	C. M. E's remarks with necessary justification are awaited and will be followed up on receipt.
		(*v*) The gang strength to be increased as the present strength is insufficient for the present 4 mile length when the gangmen have to walk long distance to and from the tool box.	C. E's remarks awaited and will be followed up on receipt.

Serial No.	Particulars of accidents	Particulars of recommendations made	Remarks of railways about implementation
139	On 30-10-53 between Rungapuram and Malkapuram while No. 1021 Up passenger was on the run, the leading pair of wheels of M. S. E. L. 205 derailed due to the left leading axle guard bridle working loose on the run and falling off prior to the accident.	As already suggested in a previous case the question of discontinuing the attachment of unit vehicle to fast passenger trains may be considered. This is already in force on the Southern Region.	No remarks are given by the Railway.
140	On 31-10-53 at Bangalore city (M.G.) when the rake of No. 1068 passenger was being formed two bogies with passengers where placed on Road No. 1 at Kengeri end of platform. Another two vehicles with engine were shunted from Road No. 2 over these two bogies standing loose for coupling. As there was some difficulty in coupling the engine was backed but the bumps resulted in the above two bogies standing loose escaping from Bangalore and travelled at high speed and stopped between Kengeri and Mejjale after travelling 12 miles.	It is suggested that a circular be issued by the Signal Department in regard to disconnection memos concerning disconnection of points, signals, etc., so that there will be a continuity in the numbering of memos in any book for a reference at any future date. The present practice of having loose sheets of disconnection memos either with the maintainer or with the Signal Inspector is not a very healthy one.	Instructions have been issued by C. S. T.E. to conform to this right procedure.
141	On 6-11-53 between Velanandal and Tandarai (M.G.) while No. 2121 Goods was on the run wagon NSC 1618 along with one more wagon behind it derailed, some of the wagons canted due to the difference in stiffness of the springs of wagon NSC 1618 while on a rough running track with hogged joints.	The track between Tandarai and Velanadal which has already been earmarked for relaying, may be relaid at an early date, top priority being given.	Remarks from the C. E. awaited and will be followed up.
142	On 1-12-53 between Ginigera and Koppal (M. G.) while No. 1023 Up Passenger was approaching the unmanned level crossing empty lorry attempted to cross the railway track from left to right in the face of the approaching train resulting in the engine running into the lorry.	It is suggested that a census of road traffic through the level crossing be taken and the level cross ing provided with gates if found justified.	Had attention and census of road traffic has been called for to settle the question of providing gate as suggested by the Committee.
143	On 15-12-53 between Thondebhavi and Muklidrug (M. G.) while No. 3072 Down Goods was on the run, the yoke buffer of wagon No. S. I. BCG 316 broke and the train parted. The rear portion consisting of 18 loads and 3 brake vans rolled back due to continuous down gradient and entered the catch siding of Thondebhavi and bumped against	There are three such coupled brake vans on the Bangalore District and all the three coupled brake vans may be withdrawn from service and the design re-examined to see if the brake pull rod could be provided central to the prucks so that the brakes may be effectively applied both in the straight and on the curves. The feasibility of providing two such	Receiving attention.

Serial No.	Particulars of accidents	Particulars of recommendations made	Remarks of railways about implementation.
	the dead and resulting in derailment and capsizement of 14 wagons. The breakage was due to old flaw.	rods on either side of the buffer connecting to the same brake beam may also be considered.	
144	On 28-11-53 at Narthamalai (M. G.) while No. 607 Dn. Passenger was on the run on Keeranur-Narthamalai Block section, the token pertaining to the block section was lost on the run, and the train ran through Narthamalai without the token.	1. There should be only one hole in the binding strap which should be made to hold the token in a tightened position. 2. The length of the rod should not be less than 3″ which is found in the recent issue of couches. 3. The possibility of the pouch being manufactured out of thick military canvas may be considered from the point of view of (*a*) cost and (*b*) ability to withstand wear and tear as compared with leather.	Under consideration to introduce a uniform type of pouch on the whole of the Railway but manufacturing out of canvas is ruled out due to the possibility of shinkage.
145	On 5-1-54 at Dindigul (M.G.) the free outer and Home signals referring to non-platform line were lowered for the train No. 609 passenger. The Cabin A.S.M. realising this mistake that it was a passenger train and not a goods train that was being received, released the signals and after resetting the points, to the correct road, cleared the correct signals for the approaching train. The Driver passed the Home signal at danger, and pulled up short of the "Inter Home".	As the practice of reversing the points in the face of a moving train, though implied in General Rules, has not been specifically prohibited in General Rules or any other approved instructions, the Committee consideres that this dangerous practice should be prohibited by a suitable Subsidiary Rule on the same lines as General Rule 36 (*c*) (applying to signals).	Considered and dropped as G.R. 36(c) is considered sufficient in the case, as reversal of points is not possible unless the signals protecting such points are released which only can be done after the train for which such signal is lowered has cleared it.

(*f*) *Western Railway.*

Serial No.	Particulars of accidents	Particulars of recommendations made	Remarks of railways about implementation.
146	On 3-2-53 at Morvi yard (MG) train No. 487 Up running past outer signal at danger derailed on point No. 44, due to points incorrectly set and the driver passed signals at danger.	Point indicator be provided to point No. 44.	1. Point indicator provided. 2. Necessary action is also being taken to provide repeater for outer if justified.
147	On 3-1-53 between Karavan-Ganpatpura while No. 754 Up Mixed train was travelling, 2nd to 10th vehicles on the train derailed. It is attributed by the G.I.R. to the initial derailment of empty wagon No. 1631 which was marshalled between two loaded wagons. The leading right wheel of this wagon had a sharp flange and had a tendency to hug the right hand rail and the trailing right wheel had its hand	1. Steps should be taken to equip all narrow gauge engines coaching stock and about 25% of the goods stock with vacuum cylinders and vacuum brakes. The remaining 75% of the goods stock should be piped. 2. On section where there are 3 or more trains in each direction, steps should be taken to eliminate mixed trains by running one of those as a goods train and	D. T. S. Pratapnagar and specially other D.T.S.'s Broad Gauge have been addressed accordingly.

Si. No.	Particulars of accidents	Particulars of recommendations made	Remarks of Railways about implementation.
	brake lever in the ' applied ' position. This wagon was sprung off the rails during the decelleration in speed of the train.	the other as passenger train. 3. The guards of all trains should correctly record in the train journals the actual timings of the arrival and departure at all halts whether schedule or out of course. Driver should alsc maintain some sort of a journal giving the timings of various halts. 4. Suitable steps should be taken to ensure that all train examining stations, all starting trains are thoroughly examined by the train examining staff and the Station Master should not permit a train to leave unless it is certified by the Train Examiner that it is fit to proceed.	
148	On 13-1-53 between Rajkot Jn. and Khandheri light engine No. 122 dashed into the trollies of P.W.I., Wankaner and A. P. W. I., Rajkot coming in the opposite direction due to failure of P.W.I. to observe rules and (ii) inadequate visibility on account of cutting in the curve.	Ball singals be provided in all such cuttings to warn trollies.	D.E.N. advised to take necessary action.
149	On 22-3-53 at Chanasma station No. 139 Up mixed, running water tank foremost ran into bullock cart left unprotected on the track at an unmanned level crossing.	(*i*) A triangle should be provided to turn engines. (*ii*) Level crossing should be manned.	(*i*) Being provided. (*ii*) Justification called for and the matter is being examined.
150	On 15-4-53 at Idar yard wagon No. 19548 on 839 Up Mixed loaded with charcoal side collided with wagon No. 12505 N. E. Railway standing on 3rd line fouling the 2nd line on which train was moving resulting in derailment of wagon No. 12505.	Special instructions regarding Omnibus and night loading should be issued.	Instructions issued.
151	On 10-5-53 at Manund Road auxiliary water tank attached in front of engine running tender foremost on 491 Up mixed derailed and capsized due to defect in rolling stock.	(*i*) Mixed train should run as A.V.B. (*ii*) Trainagle should be provided to turn engines round.	(*i*) Minimum of 20% of A.V.B. introduced. (*ii*) Justification called for and the matter is being examined.
152	On 25-5-53 between Naroda and Dabhoda engine of 1422 Dn. goods collided with bullock cart at unmanned level crossing.	(*i*) Level crossing should be manned. (*ii*) Percentage of vacuum bracked vehicles on trains to be increased.	(*i*) Justification being called and being examined. (*ii*) Minimum of 20% vacuum braked vehicles introduced.

Serial No.	Particulars of accidents	Particulars of recommendations made	Remarks of Railways about implementation
153	On 3-6-53 between Panchot and Mehsana engine of 495 Up Mixed collided with a motor truck which was infringing the track at unmanned level crossing.	Level crossing gates should be manned.	Justification called for and the matter is being examined.
154	On 23-6-53 at Botad yard train No. 566 Dn. was wrongly received on second line instead of on platform line due to failure of station staff.	In a busy yard all points on running lines should be provided with succession locks.	Joint proposal of D. T. S. and A. S. T. E. is called for.
155	On 29-6-53 at Wankaner yard the driver of 1522 Dn. goods passed the down home signal at danger, and stopped 185 feet short of No. 1523 Up goods which was standing on the line.	Arrangements should be made to make the home signal light clearly visible from the outer signal at night.	Action has been taken to form a sighting committee to carry out inspection of all signals immediately and thereafter once a year.
156	On 21-7-53 at Botad yard 594 Dn. rail motor coach passed the outer and home at danger bursting points No. 1 due to failure of train staff.	Since the outer and Home signals on Salangpur station side are frequently obscured and they are not visible from adequate distance by the drivers of approaching trains, a sighting committee should be ordered to report the modifications required.	Signal Sighting Committee has been appointed.
157	On 17-8-53 between Bhavnagar Para and Bhavnagar 33 Dn. Mail collided with a bullock cart that had broken down at manned level crossing.	It has been recommended to provide telephonic connection between station and gate together with interlocking arrangement of outer signal with the gate.	Under consideration.
158	On 10-8-53 between Halal and Champaner Road front pair of wheels of R. V. 800 of 800 Up Mixed derailed due to bunching of wagons as a result of excessive braking by driver.	Marshalling of a single empty 4 wheeler coaching or goods vehicle having less than 6 tons tare weight between loaded vehicles should be avoided.	Instructions have been issued that 4 wheeler empties should not be attached between loaded vehicles or wagons as far as possible, as with non-vacuum braked trains bunching while braking will always occur.
159	On 6-9-53 between Khanderi and Paddhari 4 wagons capsized and one wagon and 1 E. T. R. derailed on train No. 676 Dn. fast mixed due to some defect in the track.	Recommended that regular replacement of unserviceable sleepers should be made.	The necessary replacement of sleepers damaged or found unserviceable at site as a result of accident has been made.
160	On 10-9-53 between Junichavand and Bilkha 649 Up Mixed was passing empty petrol tank No. 17813 derailed due to defective track.	Recommended proper maintenance of the track.	Supply of sleepers has since been received and sleepers are renewed.
161	On 26-9-53 at Jamnagar yard No. 1514 Dn. Special goods was wrongly received on	1. Remodelling of Jamnagar station yard. 2. Shunting limit boards to	1. Under consideration. 2. Under consideration.

Serial No.	Particulars of accidents	Particulars of recommendations made	Remarks of Railways about implementation
	the 3rd line and collided with wagons standing there and its engine derailed due to failure of station staff.	be provided beween home and Outer signals.	
		3. Introduction of exchange of Token system between Muccadam and Station Master.	3. The system is being introduced.
		4. Point indicators to be provided at important points.	4. This is being arranged.
162.	On 14-10-53 between Becharjee and Rantej tender of engine No. 616 B2 of No. 485 Up Mixed, 2 AWTs, 1 empty covered goods wagon, one bogie III with brake and one T got derailed and capsized due to bad maintenance.	1. Investigations should be made to determine whether the time allowed to the Drivers for the examination of the engines before and after a trip and for getting the noticed defects removed is adequate.	Action on these recommendations is under consideration.
		2. When the above period of time has been determined steps should be taken to ensure that this period is not reduced due to incoming and outgoing lines being blocked or due to delays on the asphits or on the coaling lines.	
		3. At the end of a trip an Examining Fitter should be associated with the Driver for a thorough inspection of the engine and all defects noticed and repairs required should be noted down during this inspection.	
		4. Before the engine leaves the Shed it should be inspected by an Examining Fitter to see that all booked repairs have been properly carried out.	
		5. The timings of the drivers reporting for duty and their leaving the shed should be recorded to enable the Inspecting Officers to find out if the Drivers have been reporting for duty in good time to be able to carry out thorough inspection of their engines before leaving the shed.	
		6. Some procedure should be evolved by which it should be possible for the Administration to find out the names of the Fitters who attended to the various items of 'Schedule Repairs' to the engines.	
		7. Steps should be taken to ensure that the Fitter-in-Charge and the Loco Fore-	

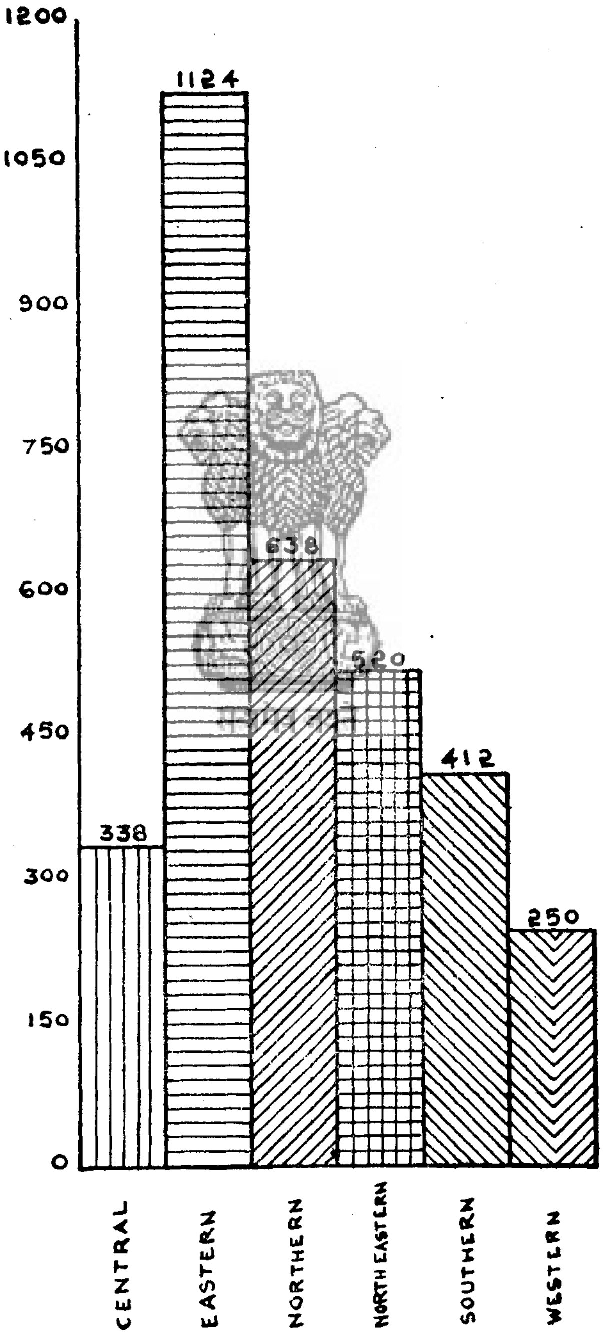
Sl. No.	Particulars of accidents	Particulars of recommendations made.	Remarks of Railways about implementation.
		man exercise a more thorough check over the work of Fitters. 8. Round pine and split pine used on the brake gear of engines might be replaced by bolts nuts and split pine or by round pine and split cotters. 9. Safety hangers or safety brackets should be provided for brake rods of all engines and ternders which are not at present fitted with these. It will be noticed that under Rule 12 of Conference Rules Part III brake rods of all rolling stock are required to be fitted with afety hangers or safety brackets. 10. Orders regarding despatch of Medical vans to the site of accident should be incorporated in the Accident Manual. 11. Suitable steps should be taken in conjunction with other Railways to ensure that all Metre-Gauge Mixed trains are run fully vacuumed and a target date of 31st March 1955 is suggested in this connection.	
163	On 25-11-53 No. 1517 Goods arrived Rajkot City from Rajkot Jn. on a line clear which was issued without the procedure being correctly gone through.	Recommended that tablet block instruments be provided at stations to avoid heavy burden of paper line clear working on staff resulting into block irregularities.	This is being looked into.
164	On 18-1-53 at Broach No. 7 Dn. Passenger booked to stop at the station passed the down platform starter signal at danger due to negligence of driver.	It was observed that the train arrived Baroda with 4 vaccum cylinders blank and 2 inoperative. No blank or inoperative cylinders should be allowed on passenger stock from a starting station.	Necessary instructions were issued to General Foreman Bombay Central and District Mechanical Engineer Bulsar.
165	On 10-2-53 at Godhra No. 686 Up Goods passed Up outer signal at danger due to failure of driver.	The Up Home signal should be raised adequately to permit of its being seen by the engine crew from a longer distance.	It is not considered that the Home signal should be raised. The signal can now be sighted from an adequate distance. Signals are provided with back-ground. These back grounds are being improved.
166	On 3-4-53 at Sayan No. 188 Up Goods ran into an Engineering material lorry resulting in derailment of the engine due to failre of Rail Mistry.	Definite instructions be issued to all Engineering Officials to strictly adhere to the instructions for moving material lorry as laid down in the Rules.	Instructions have been issued to all District Engineers to instructs Engineering staff to adhere to the instructions laid down in SR 224(4).

Sl. No.	Particulars of accidents	Particulars of recommendations made	Remarks of Railways about implementation
167	On 12-4-53 at Bayana while 850 Up Goods was entering line No. 2 engine and 4 wagons next to it completely derailed between points 12 and 13 due to defective condition of wooden sleepers.	Suitable instructions be issued for keeping a close watch on wooden sleepers in a vicinity known to be infested with white ants to ensure timely replacements of the affected sleepers.	Instructions have been issued accordingly.
168	On 9-5-53 at Madhi No. 932 Up Goods train ran into a motor truck at unmanned level crossing No. 36 due to failure of the truck driver.	Provision of wings to the level crossing and a Gateman to man the gate.	Under consideration.
169	On 14-7-53 at Sayan yard derailment on No. 929 Dn. Goods took place due to breakage of a part of dead a engine attached to it.	1. A more experienced and senior fireman should be deputed to accompany dead engines going to shops for repairs in order to be able to ensure their safe running.	No remarks given.
		2. The pony spring safety rods of the 'G' class engines be provided with a more positive security or with safety straps to eliminate the danger of this fouling the track in the event of their being uncoupled.	No remarks given
170	On 3-11-53 between Raotha Road and Alnia No. 31 Dn. F. Mail collied with a bullock cart loaded with stones at level crossing No. 97 due to failure of the Gateman to close the level crossing.	The shrubs lining the roadway on the east approach to the level crossing should be cut down to clear the view.	D.E.N. Kotah has been asked to do the needful.
171	On 30-11-53 at Miyagam driver of 31 Dn. Frontier Mail normally booked to run through this station passed the routing starter signal No. 36 at danger.	When passenger trains scheduled to run through Miyagam are to be stopped out of course should be brought to a stand at the platform starter and then pulled forward as required.	No remarks given about implementation.

GIPND—L—73 RB—2-12-57—1,000.

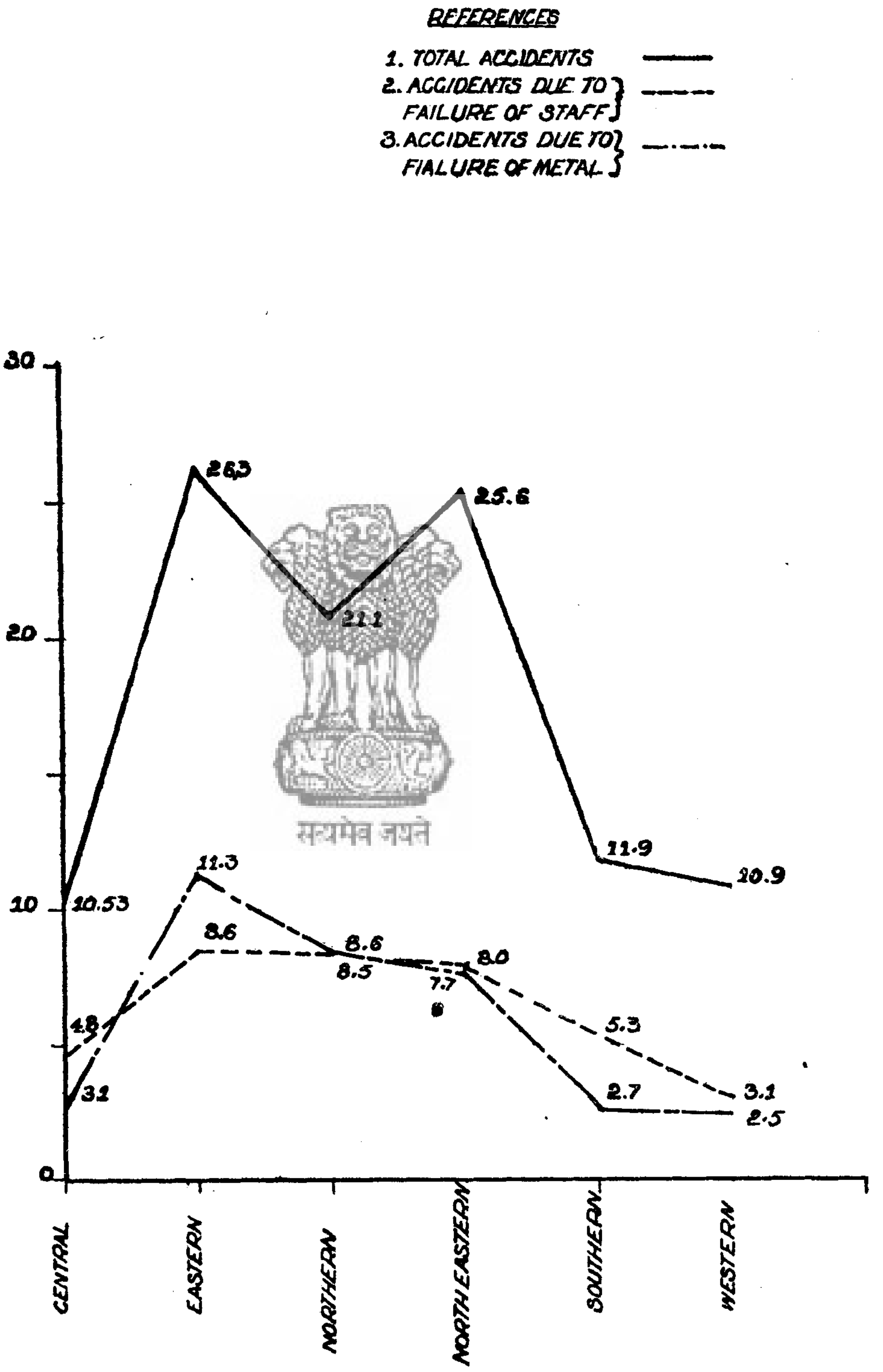
GRAPH 1

GRAPH SHOWING
TOTAL TRAIN ACCIDENTS
FOR PERIOD 1-1-53 TO 10-1-54



WORKS Dn. BR.
T. By.
C. By.
15.5.57

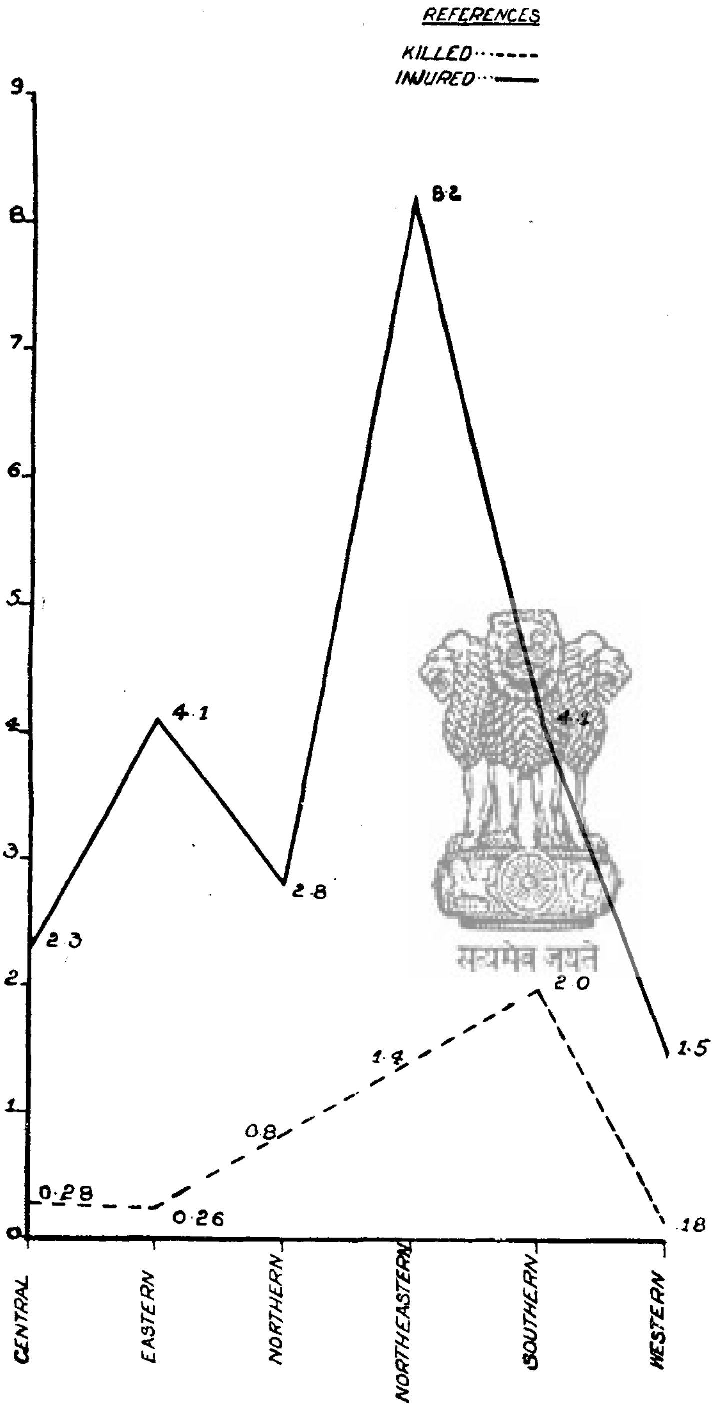
GRAPH SHOWING THE TRAIN ACCIDENTS PER MILLION TRAIN MILES



HC
WORKS Dn B.
T. BY C. BY

GRAPH 3

GRAPH SHOWING THE CASUALTIES PER MILLION TRAIN MILES IN TRAIN ACCIDENTS DURING 1-1-53 TO 10-1-54



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WORKS DR. BR.
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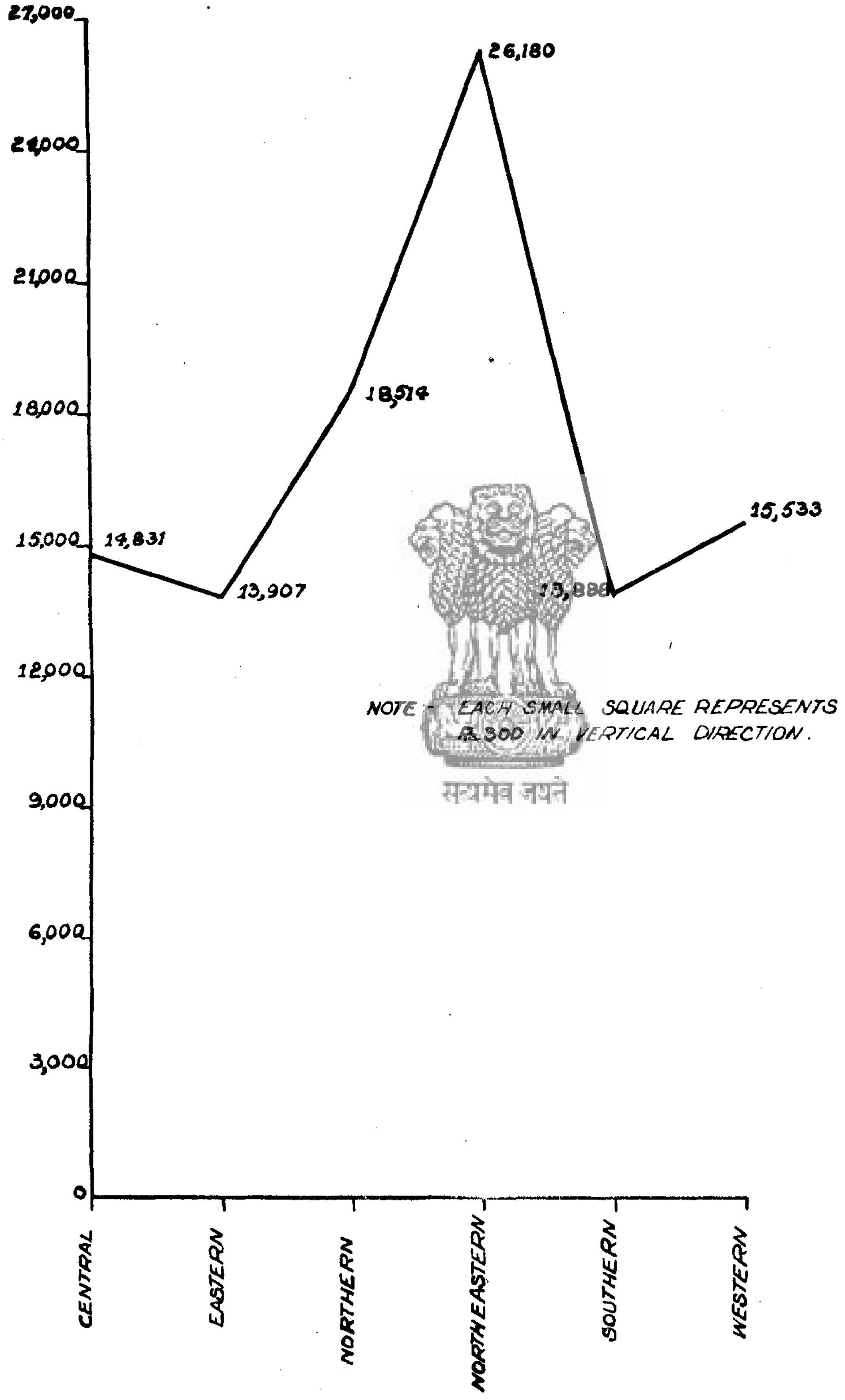
GRAPH 4

GRAPH SHOWING THE COST OF DAMAGE TO RAILWAY PROPERTY RER MILLION TRAIN MILES IN TRAIN ACCIDENTS DURING 1-1-53 TO 10-1-54



NOTE - EACH SMALL SQUARE REPRESENTS ₨ 300 IN VERTICAL DIRECTION.

H.C.
WORKS DRG BR.
T. BY 15.5.54
C. BY